

Appendix A

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CALPUFF - Tritium Release from Berkeley Lab

----- Run title (3 lines) -----

CALPUFF MODEL CONTROL FILE

INPUT GROUP: 0 -- Input and Output File Names

Default Name Type File Name

CALMET.DAT input ! METDAT =d:\p38069\calsurf\CALMETA.DAT !
or
ISCMET.DAT input * ISCDAT = *
or
PLMMET.DAT input * PLMDAT = *
or
PROFILE.DAT input * PRFDAT = *
SURFACE.DAT input * SFCDAT = *
RESTARTB.DAT input * RSTARTB= *

CALPUFF.LST output ! PUFLST =nsa.LST !
CONC.DAT output ! CONDAT =nsa.CON !
DFLX.DAT output ! DFDAT =nsa.DRY !
WFLX.DAT output ! WFDAT =nsa.WET !

VISB.DAT output * VISDAT = *
RESTARTE.DAT output * RSTARTE= *

Emission Files

PTEMARB.DAT input * PTDAT = *
VOLEM.DAT input * VOLDAT = *
BAEMARB.DAT input * ARDAT = *
LNEMARB.DAT input * LNDAT = *

Other Files

OZONE.DAT input * OZDAT = *
VD.DAT input * VDDAT = *
CHEM.DAT input * CHEMDAT= *
HILL.DAT input * HILDAT= *
HILLRCT.DAT input * RCTDAT= *
COASTLN.DAT input * CSTDAT= *
DEBUG.DAT output * DEBUG = *

All file names will be converted to lower case if LCFILES = T
Otherwise, if LCFILES = F, file names will be converted to UPPER CASE
T = lower case ! LCFILES = F !
F = UPPER CASE

NOTE: (1) file/path names can be up to 70 characters in length

!END!

INPUT GROUP: 1 -- General run control parameters

Option to run all periods found
in the met. file(s) (METRUN) Default: 0 ! METRUN = 0 !

METRUN = 0 - Run period explicitly defined below
METRUN = 1 - Run all periods in met. file(s)

Starting date: Year (IBYR) -- No default ! IBYR = 1998 !
(used only if Month (IBMO) -- No default ! IBMO = 1 !
METRUN = 0) Day (IBDY) -- No default ! IBDY = 1 !
Hour (IBHR) -- No default ! IBHR = 0 !

Length of run (hours) (IRLG) -- No default ! IRLG = 4344 !

Number of chemical species (NSPEC)
Default: 5 ! NSPEC = 2 !

Number of chemical species
to be emitted (NSE) Default: 3 ! NSE = 2 !

Flag to stop run after
SETUP phase (ITEST) Default: 2 ! ITEST = 2 !
(Used to allow checking
of the model inputs, files, etc.)
ITEST = 1 - STOPS program after SETUP phase
ITEST = 2 - Continues with execution of program
after SETUP

Restart Configuration:

Control flag (MRESTART) Default: 0 ! MRESTART = 0 !

0 = Do not read or write a restart file
1 = Read a restart file at the beginning of
the run
2 = Write a restart file during run
3 = Read a restart file at beginning of run
and write a restart file during run

Number of periods in Restart
output cycle (NRESPD) Default: 0 ! NRESPD = 0 !

0 = File written only at last period
>0 = File updated every NRESPD periods

Meteorological Data Format (METFM)
Default: 1 ! METFM = 1 !

METFM = 1 - CALMET binary file (CALMET.MET)
METFM = 2 - ISC ASCII file (ISCMET.MET)
METFM = 3 - AUSPLUME ASCII file (PLMMET.MET)
METFM = 4 - CTDM plus tower file (PROFILE.DAT) and
surface parameters file (SURFACE.DAT)

Averaging Time (minutes) (AVET)
Default: 60.0 ! AVET = 60. !
PG sigma-y is adjusted by the equation
(AVET/60.0)**0.2

!END!

INPUT GROUP: 2 -- Technical options

Vertical distribution used in the
near field (MGAUSS) Default: 1 ! MGAUSS = 1 !
0 = uniform
1 = Gaussian

Terrain adjustment method
(MCTADJ) Default: 3 ! MCTADJ = 3 !
0 = no adjustment
1 = ISC-type of terrain adjustment
2 = simple, CALPUFF-type of terrain
adjustment
3 = partial plume path adjustment

Subgrid-scale complex terrain
flag (MCTSG) Default: 0 ! MCTSG = 0 !
0 = not modeled
1 = modeled

Near-field puffs modeled as
elongated 0 (MSLUG) Default: 0 ! MSLUG = 1 !
0 = no
1 = yes (slug model used)

Transitional plume rise modeled ?
(MTRANS) Default: 0 ! MTRANS = 1 !
0 = no (i.e., final rise only)
1 = yes (i.e., transitional rise computed)

Stack tip downwash? (MTIP) Default: 1 ! MTIP = 1 !
0 = no (i.e., no stack tip downwash)
1 = yes (i.e., use stack tip downwash)

Vertical wind shear modeled above
stack top? (MSHEAR) Default: 0 ! MSHEAR = 1 !
0 = no (i.e., vertical wind shear not modeled)
1 = yes (i.e., vertical wind shear modeled)

Puff splitting allowed? (MSPLIT) Default: 0 ! MSPLIT = 1 !
0 = no (i.e., puffs not split)
1 = yes (i.e., puffs are split)

Chemical mechanism flag (MCHEM) Default: 1 ! MCHEM = 0 !
0 = chemical transformation not
modeled
1 = transformation rates computed
internally (MESOPUFF II scheme)
2 = user-specified transformation
rates used
3 = transformation rates computed
internally (RIVAD/ARM3 scheme)

Wet removal modeled ? (MWET) Default: 1 ! MWET = 1 !
0 = no
1 = yes

Dry deposition modeled ? (MDRY) Default: 1 ! MDRY = 1 !
0 = no
1 = yes
(dry deposition method specified
for each species in Input Group 3)

Method used to compute dispersion coefficients (MDISP) Default: 3 ! MDISP = 2 !

1 = dispersion coefficients computed from measured values of turbulence, sigma v, sigma w
 2 = dispersion coefficients from internally calculated sigma v, sigma w using micrometeorological variables (u*, w*, L, etc.)
 3 = PG dispersion coefficients for RURAL areas (computed using the ISCST multi-segment approximation) and MP coefficients in urban areas
 4 = same as 3 except PG coefficients computed using the MESOPUFF II eqns.
 5 = CTDM sigmas used for stable and neutral conditions. For unstable conditions, sigmas are computed as in MDISP = 3, described above. MDISP = 5 assumes that measured values are read

Sigma-v/sigma-theta, sigma-w measurements used? (MTURBVW)
 (Used only if MDISP = 1 or 5) Default: 3 ! MTURBVW = 3 !

1 = use sigma-v or sigma-theta measurements from PROFILE.DAT to compute sigma-y (valid for METFM = 1, 2, 3, 4)
 2 = use sigma-w measurements from PROFILE.DAT to compute sigma-z (valid for METFM = 1, 2, 3, 4)
 3 = use both sigma-(v/theta) and sigma-w from PROFILE.DAT to compute sigma-y and sigma-z (valid for METFM = 1, 2, 3, 4)
 4 = use sigma-theta measurements from PLMMET.DAT to compute sigma-y (valid only if METFM = 3)

Back-up method used to compute dispersion when measured turbulence data are missing (MDISP2) Default: 3 ! MDISP2 = 3 !
 (used only if MDISP = 1 or 5)

2 = dispersion coefficients from internally calculated sigma v, sigma w using micrometeorological variables (u*, w*, L, etc.)
 3 = PG dispersion coefficients for RURAL areas (computed using the ISCST multi-segment approximation) and MP coefficients in urban areas
 4 = same as 3 except PG coefficients computed using the MESOPUFF II eqns.

PG sigma-y,z adj. for roughness? Default: 0 ! MROUGH = 0 !
 (MROUGH)
 0 = no
 1 = yes

Partial plume penetration of elevated inversion? Default: 1 ! MPARTL = 1 !
 (MPARTL)
 0 = no
 1 = yes

Strength of temperature inversion provided in PROFILE.DAT extended records? Default: 0 ! MTINV = 0 !
 (MTINV)
 0 = no (computed from measured/default gradients)
 1 = yes

PDF used for dispersion under convective conditions? Default: 0 ! MPDF = 0 !

(MPDF)
 0 = no
 1 = yes

Sub-Grid TIBL module used for shore line? Default: 0 ! MSGTIBL = 0 !

(MSGTIBL)
 0 = no
 1 = yes

Test options specified to see if they conform to regulatory values? (MREG) Default: 1 ! MREG = 0 !

0 = NO checks are made
 1 = Technical options must conform to USEPA values

METFM	1
AVET	60. (s)
MGAUSS	1
MCTADJ	3
MTRANS	1
MTIP	1
MCHEM	1 (if modeling SOx, NOx)
MWET	1
MDRY	1
MDISP	3
MROUGH	0
MPARTL	1
SYTDEP	550. (m)
MHETSZ	0

!END!

INPUT GROUP: 3a, 3b -- Species list

Subgroup (3a)

The following species are modeled:

! CSPEC = SO2 ! !END!
! CSPEC = NO2 ! !END!

SPECIES NAME (Limit: 12)	MODELED (0=NO, 1=YES)	EMITTED (0=NO, 1=YES)	Dry DEPOSITED (0=NO, 1=COMPUTED-GAS)	OUTPUT GROUP NUMBER (0=NONE, 1=1st)
CGRUP, Characters			2=COMPUTED-PARTICLE	2=2nd
CGRUP, in length)			3=USER-SPECIFIED)	3= etc.)
!	SO2 =	1,	1,	0 !
!	NO2 =	1.	1,	0 !

!END!

Subgroup (3b)

The following names are used for Species-Groups in which results for certain species are combined (added) prior to output. The CGRUP name will be used as the species name in output files. Use this feature to model specific particle-size distributions by treating each size-range as a separate species. Order must be consistent with 3(a) above.

INPUT GROUP: 4 -- Grid control parameters

METEOROLOGICAL grid:

No. X grid cells (NX)	No default	! NX = 41 !
No. Y grid cells (NY)	No default	! NY = 41 !
No. vertical layers (NZ)	No default	! NZ = 10 !
Grid spacing (DGRIDKM)	No default	! DGRIDKM = 0.25 !
	Units: km	
Cell face heights (ZFACE(nz+1))	No defaults	
	Units: m	
! ZFACE = 0., 20., 40., 80., 160., 300., 600., 1000., 1500., 2200.,		
3000. !		
Reference Coordinates of SOUTHWEST corner of grid cell(1, 1):		
X coordinate (XORIGKM)	No default	! XORIGKM = 561.435 !
Y coordinate (YORIGKM)	No default	! YORIGKM = 4187.335 !
	Units: km	
UTM zone (IUTMZN)	No default	! IUTMZN = 10 !
Reference coordinates of CENTER of the domain (used in the calculation of solar elevation angles)		
Latitude (deg.) (XLAT)	No default	! XLAT = 37.833 !
Longitude (deg.) (XLONG)	No default	! XLONG = 122.302 !
Time zone (XTZ) (PST=8, MST=7, CST=6, EST=5)	No default	! XTZ = 8.0 !

Computational grid:

The computational grid is identical to or a subset of the MET. grid. The lower left (LL) corner of the computational grid is at grid point (IBCOMP, JBCOMP) of the MET. grid. The upper right (UR) corner of the computational grid is at grid point (IECOMP, JECOMP) of the MET. grid. The grid spacing of the computational grid is the same as the MET. grid.

X index of LL corner (IBCOMP) (1 <= IBCOMP <= NX)	No default	! IBCOMP = 13 !
Y index of LL corner (JBCOMP) (1 <= JBCOMP <= NY)	No default	! JBCOMP = 13 !
X index of UR corner (IECOMP) (1 <= IECOMP <= NX)	No default	! IECOMP = 28 !
Y index of UR corner (JECOMP) (1 <= JECOMP <= NY)	No default	! JECOMP = 28 !

SAMPLING GRID (GRIDDED RECEPTORS):

The lower left (LL) corner of the sampling grid is at grid point (IBSAMP, JBSAMP) of the MET. grid. The upper right (UR) corner of the sampling grid is at grid point (IESAMP, JESAMP) of the MET. grid. The sampling grid must be identical to or a subset of the computational grid. It may be a nested grid inside the computational grid. The grid spacing of the sampling grid is DGRIDKM/MESHDN.

Logical flag indicating if gridded receptors are used (LSAMP)	Default: T	! LSAMP = T !
(T=yes, F=no)		
X index of LL corner (IBSAMP) (IBCOMP <= IBSAMP <= IECOMP)	No default	! IBSAMP = 13 !
Y index of LL corner (JBSAMP) (JBCOMP <= JBSAMP <= JECOMP)	No default	! JBSAMP = 13 !
X index of UR corner (IESAMP) (IBCOMP <= IESAMP <= IECOMP)	No default	! IESAMP = 28 !
Y index of UR corner (JESAMP) (JBCOMP <= JESAMP <= JECOMP)	No default	! JESAMP = 28 !
Nesting factor of the sampling grid (MESHDN) (MESHDN is an integer >= 1)	Default: 1	! MESHDN = 3 !

!END!

INPUT GROUP: 5 -- Output Options

FILE	DEFAULT VALUE	VALUE THIS RUN
Concentrations (ICON)	1	! ICON = 1 !
Dry Fluxes (IDRY)	1	! IDRY = 1 !
Wet Fluxes (IWET)	1	! IWET = 1 !
Relative Humidity (IVIS) (relative humidity file is required for visibility analysis)	1	! IVIS = 0 !
Use data compression option in output file? (LCOMPRS)	Default: T	! LCOMPRS = T !

*

0 = Do not create file, 1 = create file

LINE PRINTER OUTPUT OPTIONS:

Print concentrations (ICPRT)	Default: 0	! ICPRT = 0 !
Print dry fluxes (IDPRT)	Default: 0	! IDPRT = 0 !
Print wet fluxes (IWPRT)	Default: 0	! IWPRT = 0 !
(0 = Do not print, 1 = Print)		
Concentration print interval (ICFRQ) in hours	Default: 1	! ICFRQ = 1 !
Dry flux print interval (IDFRQ) in hours	Default: 1	! IDFRQ = 1 !
Wet flux print interval (IWFRQ) in hours	Default: 1	! IWFRQ = 1 !
Units for Line Printer Output (IPRTU)	Default: 1	! IPRTU = 3 !
for Concentration	for Deposition	
1 = g/m**3	g/m**2/s	
2 = mg/m**3	mg/m**2/s	
3 = ug/m**3	ug/m**2/s	
4 = ng/m**3	ng/m**2/s	
5 = Odour Units		
Messages tracking progress of run written to the screen ? (IMESG) -- 0=no, 1=yes	Default: 1	! IMESG = 1 !

SPECIES (or GROUP for combined species) LIST FOR OUTPUT OPTIONS

----- CONCENTRATIONS -----			----- DRY FLUXES -----		
----- WET FLUXES -----					
SPECIES					
/GROUP	PRINTED ?	SAVED ON DISK ?	PRINTED ?	SAVED ON DISK ?	
PRINTED ?	SAVED ON DISK ?				
!	SO2 = 1,	1,	0,	1,	
0,	1 !				
!	NO2 = 1,	1,	0,	1,	
0,	1 !				

OPTIONS FOR PRINTING "DEBUG" QUANTITIES (much output)

Logical for debug output (LDEBUG)	Default: F	! LDEBUG = F !
Number of puffs to track (NPFDEB)	Default: 1	! NPFDEB = 1 !
Met. period to start output (NN1)	Default: 1	! NN1 = 1 !
Met. period to end output (NN2)	Default: 10	! NN2 = 10 !

!END!

INPUT GROUP: 6a, 6b, & 6c -- Subgrid scale complex terrain inputs

Subgroup (6a)

Number of terrain features (NHILL)	Default: 0	! NHILL = 0 !
Number of special complex terrain receptors (NCTREC)	Default: 0	! NCTREC = 0 !
Terrain and CTSG Receptor data for CTSG hills input in CTDM format ? (MHILL)	No Default	! MHILL = 0 !
1 = Hill and Receptor data created by CTDM processors & read from HILL.DAT and HILLRCT.DAT files		
2 = Hill data created by OPTHILL & input below in Subgroup (6b); Receptor data in Subgroup (6c)		
Factor to convert horizontal dimensions to meters (MHILL=1)	Default: 1.0	! XHILL2M = 1. !
Factor to convert vertical dimensions to meters (MHILL=1)	Default: 1.0	! ZHILL2M = 1. !
X-origin of CTDM system relative to CALPUFF coordinate system, in Kilometers (MHILL=1)	No Default	! XCTDMKM = 0.0E00 !
Y-origin of CTDM system relative to CALPUFF coordinate system, in Kilometers (MHILL=1)	No Default	! YCTDMKM = 0.0E00 !

! END !

Subgroup (6b)

1 **
HILL information

HILL SCALE 2 NO. (m)	XC AMAX1 (km)	YC AMAX2 (km)	THETAH (deg.)	ZGRID (m)	RELIEF (m)	EXPO 1 (m)	EXPO 2 (m)	SCALE 1 (m)
-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----	-----

Subgroup (6c)

COMPLEX TERRAIN RECEPTOR INFORMATION

XRCT (km)	YRCT (km)	ZRCT (m)	XHH
-----	-----	-----	-----

1

Description of Complex Terrain Variables:

XC, YC = Coordinates of center of hill
THETAH = Orientation of major axis of hill (clockwise from North)
ZGRID = Height of the 0 of the grid above mean sea level
RELIEF = Height of the crest of the hill above the grid elevation
EXPO 1 = Hill-shape exponent for the major axis
EXPO 2 = Hill-shape exponent for the major axis
SCALE 1 = Horizontal length scale along the major axis
SCALE 2 = Horizontal length scale along the minor axis
AMAX = Maximum allowed axis length for the major axis
BMAX = Maximum allowed axis length for the major axis

XRCT, YRCT = Coordinates of the complex terrain receptors
ZRCT = Height of the ground (MSL) at the complex terrain Receptor
XHH = Hill number associated with each complex terrain receptor
(NOTE: MUST BE ENTERED AS A REAL NUMBER)

**

NOTE: DATA for each hill and CTSG receptor are treated as a separate input subgroup and therefore must end with an input group terminator.

INPUT GROUP: 7 -- Chemical parameters for dry deposition of gases

SPECIES HENRY'S LAW COEFFICIENT NAME (dimensionless)	DIFFUSIVITY (cm**2/s)	ALPHA STAR	REACTIVITY	MESOPHYLL RESISTANCE (s/cm)
! SO2 = 0.04 !	0.1659,	1.,	8.,	5.,
! NO2 = 0.04 !	0.1656,	1.,	8.,	5.,

!END!

INPUT GROUP: 8 -- Size parameters for dry deposition of particles

For SINGLE SPECIES, the mean and standard deviation are used to compute a deposition velocity for NINT (see group 9) size-ranges, and these are then averaged to obtain a mean deposition velocity.

For GROUPED SPECIES, the size distribution should be explicitly specified (by the 'species' in the group), and the standard deviation for each should be entered as 0. The model will then use the deposition velocity for the stated mean diameter.

SPECIES NAME	GEOMETRIC MASS MEAN DIAMETER (microns)	GEOMETRIC STANDARD DEVIATION (microns)
! SO2 = ! NO2 =	0.10, 0.10,	0.01 ! 0.01 !

!END!

INPUT GROUP: 9 -- Miscellaneous dry deposition parameters

Reference cuticle resistance (RCUTR) (s/cm) ! RCUTR = 30. !
Reference ground resistance (RGR) (s/cm) ! RGR = 5. !
Reference pollutant reactivity (REACTR) ! REACTR = 8. !

Number of particle-size intervals used to evaluate effective particle deposition velocity (NINT) Default: 9 ! NINT = 9 !

Vegetation state in unirrigated areas (IVEG) ! IVEG = 1 !
IVEG=1 for active and unstressed vegetation
IVEG=2 for active and stressed vegetation
IVEG=3 for inactive vegetation

!END!

INPUT GROUP: 10 -- Wet Deposition Parameters

Scavenging Coefficient -- Units: (sec)**(-1)

Pollutant	Liquid Precip.	Frozen Precip.
! SO2 =	3.0E-05,	5.0E-06 !
! NO2 =	3.0E-05,	5.0E-06 !

!END!

INPUT GROUP: 11 -- Chemistry Parameters

Ozone data input option (MOZ) Default: 1 ! MOZ = 0 !
(Used only if MCHEM = 1 or 3)

0 = use a constant background ozone value
1 = read hourly ozone concentrations from
the OZONE.DAT data file

Background ozone concentration
(BCKO3) in ppb Default: 80. ! BCKO3 = 40. !
(Used only if MCHEM = 1 or 3 and
MOZ = 0 or (MOZ = 1 and all hourly
O3 data missing))

Background ammonia concentration
(BCKNH3) in ppb Default: 10. ! BCKNH3 = 10. !

Nighttime SO2 loss rate (RNITE1)
in percent/hour Default: 0.2 ! RNITE1 = 0.2 !

Nighttime NOx loss rate (RNITE2)
in percent/hour Default: 2.0 ! RNITE2 = 2. !

Nighttime HNO3 formation rate (RNITE3)
in percent/hour Default: 2.0 ! RNITE3 = 2. !

!END!

INPUT GROUP: 12 -- Misc. Dispersion and Computational Parameters

Horizontal size of puff (m) beyond which
time-dependent dispersion equations (Heffter)
are used to determine sigma-y and
sigma-z (SYTDEP) Default: 550. ! SYTDEP = 5.5E02 !

Switch for using Heffter equation for sigma z
as above (0 = Not use Heffter; 1 = use Heffter
(MHFTSZ) Default: 0 ! MHFTSZ = 0 !

Stability class used to determine plume growth rates for puffs above the boundary layer (JSUP) Default: 5 ! JSUP = 5 !

Vertical dispersion constant for stable conditions (k1 in Eqn. 2.7-3) (CONK1) Default: 0.01 ! CONK1 = 0.01 !

Vertical dispersion constant for neutral/unstable conditions (k2 in Eqn. 2.7-4) (CONK2) Default: 0.1 ! CONK2 = 0.1 !

Factor for determining Transition-point from Schulman-Scire to Huber-Snyder Building Downwash scheme (SS used for Hs < Hb + TBD * HL) (TBD) Default: 0.5 ! TBD = 0.5 !

- TBD < 0 ==> always use Huber-Snyder
- TBD = 1.5 ==> always use Schulman-Scire
- TBD = 0.5 ==> ISC Transition-point

Range of land use categories for which urban dispersion is assumed (IURB1, IURB2) Default: 10 ! IURB1 = 10 !
19 ! IURB2 = 19 !

Site characterization parameters for single-point Met data files ----- (needed for METFM = 2,3,4)

Land use category for modeling domain (ILANDUIN) Default: 20 ! ILANDUIN = 20 !

Roughness length (m) for modeling domain (ZOIN) Default: 0.25 ! ZOIN = 0.25 !

Leaf area index for modeling domain (XLAIIN) Default: 3.0 ! XLAIIN = 3. !

Elevation above sea level (m) (ELEVIN) Default: 0.0 ! ELEVIN = 0. !

Latitude (degrees) for met location (XLATIN) Default: -999. ! XLATIN = 0. !

Longitude (degrees) for met location (XLONIN) Default: -999. ! XLONIN = 0. !

Specialized information for interpreting single-point Met data files -----

Anemometer height (m) (Used only if METFM = 2,3) (ANEMHT) Default: 10. ! ANEMHT = 10. !

Form of lateral turbulence data in PROFILE.DAT file (Used only if METFM = 4 or MTURBVW = 1 or 3) (ISIGMAV) Default: 1 ! ISIGMAV = 1 !

- 0 = read sigma-theta
- 1 = read sigma-v

Choice of mixing heights (Used only if METFM = 4) (IMIXCTDM) Default: 0 ! IMIXCTDM = 0 !

- 0 = read PREDICTED mixing heights
- 1 = read OBSERVED mixing heights

Maximum length of a slug (met. grid units) (XMXLEN) Default: 1.0 ! XMXLEN = 1. !

Maximum travel distance of a puff/slug (in
 grid units) during one sampling step
 (XSAMLEN) Default: 1.0 ! XSAMLEN = 1. !

Maximum Number of slugs/puffs release from
 one source during one time step
 (MXNEW) Default: 99 ! MXNEW = 99 !

Maximum Number of sampling steps for
 one puff/slug during one time step
 (MXSAM) Default: 99 ! MXSAM = 99 !

Number of iterations used when computing
 the transport wind for a sampling step
 that includes gradual rise (for CALMET
 and PROFILE winds)
 (NCOUNT) Default: 2 ! NCOUNT = 2 !

Minimum sigma y for a new puff/slug (m)
 (SYMIN) Default: 1.0 ! SYMIN = 1. !

Minimum sigma z for a new puff/slug (m)
 (SZMIN) Default: 1.0 ! SZMIN = 1. !

Default minimum turbulence velocities
 sigma-v and sigma-w for each
 stability class (m/s)
 (SVMIN(6) and SWMIN(6)) Default SVMIN : .50, .50, .50, .50, .50, .50
 Default SWMIN : .20, .12, .08, .06, .03, .016

Stability Class :	A	B	C	D	E	F
---	---	---	---	---	---	---

! SVMIN = 0.500, 0.500, 0.500, 0.500, 0.500,
 0.500!
 ! SWMIN = 0.200, 0.120, 0.080, 0.060, 0.030,
 0.016!

Divergence criterion for dw/dz across puff
 used to initiate adjustment for horizontal
 convergence (1/s)
 Partial adjustment starts at CDIV(1), and
 full adjustment is reached at CDIV(2)
 (CDIV(2)) Default: 0.0,0.0 ! CDIV = 0.0, 0.0 !

Minimum wind speed (m/s) allowed for
 non-calm conditions. Also used as minimum
 speed returned when using power-law
 extrapolation toward surface
 (WSCALM) Default: 0.5 ! WSCALM = 0.5 !

Maximum mixing height (m)
 (XMAXZI) Default: 3000. ! XMAXZI = 3000. !

Minimum mixing height (m)
 (XMINZI) Default: 50. ! XMINZI = 20. !

Default wind speed classes --
 5 upper bounds (m/s) are entered;
 the 6th class has no upper limit
 (WSCAT(5)) Default :
 ISC RURAL : 1.54, 3.09, 5.14, 8.23, 10.8 (10.8+)

Wind Speed Class :	1	2	3	4	5	6
---	---	---	---	---	---	---

! WSCAT = 1.54, 3.09, 5.14, 8.23, 10.80 !

Default wind speed profile power-law exponents for stabilities 1-6
 (PLX0(6))

Default : ISC RURAL values
ISC RURAL : .07, .07, .10, .15, .35, .55
ISC URBAN : .15, .15, .20, .25, .30, .30

Stability Class : A B C D E F
--- --- --- --- --- ---
! PLX0 = 0.07, 0.07, 0.10, 0.15, 0.35, 0.55 !

Default potential temperature gradient for stable classes E, F (degK/m)
 (PTG0(2))

Default: 0.020, 0.035
! PTG0 = 0.020, 0.035 !

Default plume path coefficients for each stability class (used when option for partial plume height terrain adjustment is selected -- MCTADJ=3)
 (PPC(6))

Stability Class : A B C D E F
Default PPC : .50, .50, .50, .50, .35, .35
--- --- --- --- --- ---
! PPC = 0.50, 0.50, 0.50, 0.50, 0.35, 0.35 !

Slug-to-puff transition criterion factor equal to sigma-y/length of slug
 (SL2PF)

Default: 10.
! SL2PF = 10. !

Puff-splitting control variables -----

Number of puffs that result every time a puff is split - nsplit=2 means that 1 puff splits into 2
 (NSPLIT)

Default: 3
! NSPLIT = 3 !

Time(s) of a day when split puffs are eligible to be split once again; this is typically set once per day, around sunset before nocturnal shear develops.
 24 values: 0 is midnight (00:00) and 23 is 11 PM (23:00)
 0=do not re-split 1=eligible for re-split
 (IRESPLIT(24))

Default: Hour 17 = 1
! IRESPLIT = 0,0 !

Split is allowed only if last hour's mixing height (m) exceeds a minimum value
 (ZISPLIT)

Default: 100.
! ZISPLIT = 100. !

Split is allowed only if ratio of last hour's mixing ht to the maximum mixing ht experienced by the puff is less than a maximum value (this postpones a split until a nocturnal layer develops)
 (ROLDMAX)

Default: 0.25
! ROLDMAX = 0.25 !

Integration control variables -----

Fractional convergence criterion for numerical SLUG sampling integration
 (EPSSLUG)

Default: 1.0e-04 ! EPSSLUG = 1.0E-04 !
--

Fractional convergence criterion for numerical AREA source integration
 (EPSAREA)

Default: 1.0e-06 ! EPSAREA = 1.0E-06 !
--

!END!

INPUT GROUPS: 13a, 13b, 13c, 13d -- Point source parameters

Subgroup (13a)

Number of point sources with
parameters provided below (NPT1) No default ! NPT1 = 1 !

Units used for point source
emissions below (IPTU) Default: 1 ! IPTU = 1 !

1 = g/s
2 = kg/hr
3 = lb/hr
4 = tons/yr
5 = Odour Unit * m**3/s (vol. flux of odour compound)
6 = Odour Unit * m**3/min

Number of source-species
combinations with variable
emissions scaling factors
provided below in (13d) (NSPT1) Default: 0 ! NSPT1 = 0 !

Number of point sources with
variable emission parameters
provided in external file (NPT2) No default ! NPT2 = 0 !

(If NPT2 > 0, these point
source emissions are read from
the file: PTEMARB.DAT)

!END!

Subgroup (13b)

a
POINT SOURCE: CONSTANT DATA

b
c
Source X UTM Y UTM Stack Base Stack Exit Exit Bldg.
Emission No. Coordinate Coordinate Height Elevation Diameter Vel. Temp. Dwash
Rates
(km) (km) (m) (m) (m) (m/s) (deg. K)

--
1 ! SRCNAM = P1 !
1 ! X = 566.481, 4192.316, 9.1, 298.7, .57, 11.9, 293.15,
1.0, 1.0E00 !
1 ! FMFAC = 1.0 ! !END!

a

Data for each source are treated as a separate input subgroup
and therefore must end with an input group terminator.

b

0. = No building downwash modeled, 1. = downwash modeled
NOTE: must be entered as a REAL number (i.e., with decimal point)

C

An emission rate must be entered for every pollutant modeled. Enter emission rate of zero for secondary pollutants that are modeled, but not emitted. Units are specified by IPTU (e.g. 1 for g/s).

Subgroup (13c)

Source

No. Effective building width and height (in meters) every 10 degrees

```
1      ! SRCNAM   =    P1 !
1      ! HEIGHT   =    3.80,    3.80,    3.80,    3.80,    3.80,    3.80,
1                                4.70,    4.70,    4.70,    3.80,    3.80,    4.70,
1                                4.70,    4.70,    4.70,    3.80,    3.80,    3.80,
1                                3.80,    3.80,    3.80,    3.80,    3.80,    3.80,
1                                4.70,    4.70,    4.70,    4.70,    4.70,    4.70,
1                                4.70,    4.70,    4.70,    3.80,    3.80,    3.80!
```

```

1      ! WIDTH   =    22.36,  23.50,  25.75,  27.00,  27.75,  27.50,
          26.50,  24.50,  22.00,  18.50,  20.75,  24.25,
          26.25,  27.25,  27.75,  27.88,  26.88,  25.00,
          22.36,  23.50,  25.75,  27.25,  27.75,  27.50,
          26.50,  24.75,  22.00,  18.50,  21.50,  24.00,
          26.00,  27.25,  28.00,  28.00,  26.88,  25.00!

```

!END!

a

Each pair of width and height values is treated as a separate input subgroup and therefore must end with an input group terminator.

Subgroup (13d)

POINT SOURCE: VARIABLE EMISSIONS DATA

Use this subgroup to describe temporal variations in the emission rates given in 13b. Factors entered multiply the rates in 13b. Skip sources here that have constant emissions. For more elaborate variation in source parameters, use PTEMARB.DAT and NPT2 > 0.

IVARY determines the type of variation, and is source-specific:
(IVARY) Default: 0

0 = Constant
 1 = Diurnal cycle (24 scaling factors: hours 1-24)
 2 = Monthly cycle (12 scaling factors: months 1-12)
 3 = Hour & Season (4 groups of 24 hourly scaling factors,
 where first group is DEC-JAN-FEB)
 4 = Speed & Stab. (6 groups of 6 scaling factors, where
 first group is Stability Class A,
 and the speed classes have upper
 bounds (m/s) defined in Group 12)
 5 = Temperature (12 scaling factors, where temperature
 classes have upper bounds (C) of:
 0, 5, 10, 15, 20, 25, 30, 35, 40,
 45, 50, 50+)

a
Data for each species are treated as a separate input subgroup
and therefore must end with an input group terminator.

INPUT GROUPS: 14a, 14b, 14c, 14d -- Area source parameters

Subgroup (14a)

Number of polygon area sources with
parameters specified below (NAR1) No default ! NAR1 = 0 !

Units used for area source
emissions below (IARU) Default: 1 ! IARU = 1 !
1 = g/m**2/s
2 = kg/m**2/hr
3 = lb/m**2/hr
4 = tons/m**2/yr
5 = Odour Unit * m/s (vol. flux/m**2 of odour compound)
6 = Odour Unit * m/min

Number of source-species
combinations with variable
emissions scaling factors
provided below in (14d) (NSAR1) Default: 0 ! NSAR1 = 0 !

Number of buoyant polygon area sources
with variable location and emission
parameters (NAR2) No default ! NAR2 = 0 !
(If NAR2 > 0, ALL parameter data for
these sources are read from the file: BAEMARB.DAT)

!END!

Subgroup (14b)

a
AREA SOURCE: CONSTANT DATA

Source No.	Effect. Height (m)	Base Elevation (m)	Initial Sigma z (m)	Emission Rates
-----	-----	-----	-----	-----

b

a
Data for each source are treated as a separate input subgroup
and therefore must end with an input group terminator.

b
An emission rate must be entered for every pollutant modeled.
Enter emission rate of zero for secondary pollutants that are
modeled, but not emitted. Units are specified by IARU
(e.g. 1 for g/m**2/s).

Subgroup (14c)

COORDINATES (UTM-km) FOR EACH VERTEX(4) OF EACH POLYGON

Source a
No. Ordered list of X followed by list of Y, grouped by source

a

Data for each source are treated as a separate input subgroup and therefore must end with an input group terminator.

Subgroup (14d)

AREA SOURCE: VARIABLE EMISSIONS DATA

a

Use this subgroup to describe temporal variations in the emission rates given in 14b. Factors entered multiply the rates in 14b. Skip sources here that have constant emissions. For more elaborate variation in source parameters, use BAEMAR.BAT and NAR2 > 0.

IVARY determines the type of variation, and is source-specific:

(IVARY) Default: 0

```

0 = Constant
1 = Diurnal cycle (24 scaling factors: hours 1-24)
2 = Monthly cycle (12 scaling factors: months 1-12)
3 = Hour & Season (4 groups of 24 hourly scaling factors,
                     where first group is DEC-JAN-FEB)
4 = Speed & Stab. (6 groups of 6 scaling factors, where
                     first group is Stability Class A,
                     and the speed classes have upper
                     bounds (m/s) defined in Group 12
5 = Temperature (12 scaling factors, where temperature
                  classes have upper bounds (C) of:
                  0, 5, 10, 15, 20, 25, 30, 35, 40,
                  45, 50, 50+)

```

a

Data for each species are treated as a separate input subgroup and therefore must end with an input group terminator.

INPUT GROUPS: 15a, 15b, 15c -- Line source parameters

Subgroup (15a)

Number of buoyant line sources
with variable location and emission
parameters (NLN2) No default ! NLN2 = 0 !

(If NLN2 > 0, ALL parameter data for
these sources are read from the file: LNEMARB.DAT)

Number of buoyant line sources (NLINES) No default ! NLINES = 0 !

Units used for line source
emissions below (ILNU) Default: 1 ! ILNU = 1 !
1 = g/s
2 = kg/hr
3 = lb/hr
4 = tons/yr
5 = Odour Unit * m**3/s (vol. flux of odour compound)
6 = Odour Unit * m**3/min

Number of source-species
combinations with variable
emissions scaling factors
provided below in (15c) (NSLN1) Default: 0 ! NSLN1 = 0 !

Maximum number of segments used to model
each line (MXNSEG) Default: 7 ! MXNSEG = 7 !

The following variables are required only if NLINES > 0. They are
used in the buoyant line source plume rise calculations.

Number of distances at which
transitional rise is computed Default: 6 ! NLRISE = 6 !

Average line source length (XL) No default ! XL = 0. !
(in meters)

Average height of line source height (HBL) No default ! HBL = 0. !
(in meters)

Average building width (WBL) No default ! WBL = 0. !
(in meters)

Average line source width (WML) No default ! WML = 0. !
(in meters)

Average separation between buildings (DXL) No default ! DXL = 0. !
(in meters)

Average buoyancy parameter (FPRIMEL) No default ! FPRIMEL = 0. !
(in m**4/s**3)

!END!

Subgroup (15b)

BUOYANT LINE SOURCE: CONSTANT DATA

a

Data for each source are treated as a separate input subgroup and therefore must end with an input group terminator.

b

An emission rate must be entered for every pollutant modeled. Enter emission rate of zero for secondary pollutants that are modeled, but not emitted. Units are specified by ILNTU (e.g. 1 for g/s).

Subgroup (15c)

BUOYANT LINE SOURCE: VARIABLE EMISSIONS DATA

Use this subgroup to describe temporal variations in the emission rates given in 15b. Factors entered multiply the rates in 15b. Skip sources here that have constant emissions.

IVARY determines the type of variation, and is source-specific:
(IVARY) Default: 0

0 = Constant
 1 = Diurnal cycle (24 scaling factors: hours 1-24)
 2 = Monthly cycle (12 scaling factors: months 1-12)
 3 = Hour & Season (4 groups of 24 hourly scaling factors,
 where first group is DEC-JAN-FEB)
 4 = Speed & Stab. (6 groups of 6 scaling factors, where
 first group is Stability Class A,
 and the speed classes have upper
 bounds (m/s) defined in Group 12
 5 = Temperature (12 scaling factors, where temperature
 classes have upper bounds (C) of:
 0, 5, 10, 15, 20, 25, 30, 35, 40,
 45, 50, 50+)

a

Data for each species are treated as a separate input subgroup and therefore must end with an input group terminator.

INPUT GROUPS: 16a, 16b, 16c -- Volume source parameters

Subgroup (16a)

Number of volume sources with
parameters provided in 16b,c (NVL1) No default ! NVL1 = 0 !

Units used for volume source
emissions below in 16b (IVLU) Default: 1 ! IVLU = 1 !

1 =	g/s
2 =	kg/hr
3 =	lb/hr
4 =	tons/yr
5 =	Odour Unit * m**3/s (vol. flux of odour compound)
6 =	Odour Unit * m**3/min

Number of source-species
combinations with variable
emissions scaling factors
provided below in (16c) (NSVLL1) Default: 0 ! NSVLL1 = 0 !

Gridded volume source data
used ? (IGRDVLL) No default ! IGRDVLL = 0 !

0 = no
1 = yes (gridded volume source emissions read from the file: VOLEM.DAT)

The following parameters apply to the data in the
gridded volume source emissions file (VOLEM.DAT)

- Effective height of emissions
(VEFFHT) in meters No default ! VEFFHT = 0. !
- Initial sigma y (VSIGYI) in
meters No default ! VSIGYI = 0. !
- Initial sigma z (VSIGZI) in
meters No default ! VSIGZI = 0. !

!END!

Subgroup (16b)

a
VOLUME SOURCE: CONSTANT DATA

X UTM Coordinate (km)	Y UTM Coordinate (km)	Effect. Height (m)	Base Elevation (m)	Initial Sigma y (m)	Initial Sigma z (m)	Emission Rates
-----	-----	-----	-----	-----	-----	-----

a

Data for each source are treated as a separate input subgroup and therefore must end with an input group terminator.

b

An emission rate must be entered for every pollutant modeled. Enter emission rate of zero for secondary pollutants that are modeled, but not emitted. Units are specified by IVLU (e.g. 1 for g/s).

Subgroup (16c)

a
VOLUME SOURCE: VARIABLE EMISSIONS DATA

Use this subgroup to describe temporal variations in the emission rates given in 16b. Factors entered multiply the rates in 16b. Skip sources here that have constant emissions. For more elaborate variation in source parameters, use VOLEM.DAT and IGRDVL = 1.

IVARY determines the type of variation, and is source-specific:

(IVARY) Default: 0

0 =	Constant
1 =	Diurnal cycle (24 scaling factors: hours 1-24)
2 =	Monthly cycle (12 scaling factors: months 1-12)
3 =	Hour & Season (4 groups of 24 hourly scaling factors, where first group is DEC-JAN-FEB)
4 =	Speed & Stab. (6 groups of 6 scaling factors, where first group is Stability Class A, and the speed classes have upper bounds (m/s) defined in Group 12
5 =	Temperature (12 scaling factors, where temperature classes have upper bounds (C) of: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 50+)

a

Data for each species are treated as a separate input subgroup and therefore must end with an input group terminator.

INPUT GROUPS: 17a & 17b -- Non-gridded (discrete) receptor information

Subgroup (17a)

Number of non-gridded receptors (NREC) No default ! NREC = 35 !

!END!

Subgroup (17b)

a
NON-GRIDDED (DISCRETE) RECEPTOR DATA

Receptor No.	X UTM Coordinate (km)	Y UTM Coordinate (km)	Ground Elevation (m)		
1 ! X =	566.438,	4192.474,	319.000,	0.000!	!END!
2 ! X =	566.488,	4192.452,	316.000,	0.000!	!END!
3 ! X =	566.535,	4192.426,	329.000,	0.000!	!END!
4 ! X =	566.571,	4192.387,	320.000,	0.000!	!END!
5 ! X =	566.614,	4192.331,	308.000,	0.000!	!END!
6 ! X =	566.755,	4192.198,	283.000,	0.000!	!END!
7 ! X =	566.813,	4191.961,	239.000,	0.000!	!END!
8 ! X =	566.593,	4191.969,	207.000,	0.000!	!END!
9 ! X =	566.441,	4191.955,	226.000,	0.000!	!END!
10 ! X =	566.269,	4191.917,	210.000,	0.000!	!END!
11 ! X =	566.06,	4191.949,	230.000,	0.000!	!END!
12 ! X =	565.725,	4192.032,	155.000,	0.000!	!END!
13 ! X =	565.589,	4192.325,	175.000,	0.000!	!END!
14 ! X =	565.747,	4192.622,	259.000,	0.000!	!END!
15 ! X =	566.37,	4192.401,	343.000,	0.000!	!END!
16 ! X =	566.276,	4192.714,	357.000,	0.000!	!END!
17 ! X =	566.54,	4192.576,	384.000,	0.000!	!END!
18 ! X =	566.566,	4192.332,	332.000,	0.000!	!END!
19 ! X =	566.972,	4192.268,	265.000,	0.000!	!END!
20 ! X =	566.955,	4192.131,	246.000,	0.000!	!END!
21 ! X =	567.2,	4191.85,	236.000,	0.000!	!END!
22 ! X =	566.7,	4191.49,	285.000,	0.000!	!END!
23 ! X =	566.276,	4192.027,	262.000,	0.000!	!END!
24 ! X =	566.131,	4192.085,	268.000,	0.000!	!END!
25 ! X =	566.001,	4192.147,	238.000,	0.000!	!END!
26 ! X =	565.621,	4192.176,	160.000,	0.000!	!END!
27 ! X =	566.063,	4192.329,	244.000,	0.000!	!END!
28 ! X =	565.918,	4192.548,	251.000,	0.000!	!END!
29 ! X =	565.991,	4192.428,	264.000,	0.000!	!END!
30 ! X =	566.383,	4192.428,	344.000,	0.000!	!END!
31 ! X =	566.143,	4192.672,	338.000,	0.000!	!END!
32 ! X =	566.344,	4192.568,	335.000,	0.000!	!END!
33 ! X =	566.488,	4192.299,	297.000,	0.000!	!END!
34 ! X =	566.439,	4192.889,	378.000,	0.000!	!END!
35 ! X =	566.406,	4192.352,	325.000,	0.000!	!END!

a

Data for each receptor are treated as a separate input subgroup and therefore must end with an input group terminator.

Table A.1 Concentrations Estimated using CALPUFF, assuming an annual release of 30 Ci

UTM-E (km)	UTM-N (km)	Conc (pCi/m ³)	UTM-E (km)	UTM-N (km)	Conc (pCi/m ³)
564.560	4190.460	--	564.643	4192.377	0.013
564.643	4190.460	--	564.727	4192.377	0.014
564.727	4190.460	--	564.810	4192.377	0.016
564.810	4190.460	--	564.893	4192.377	0.017
564.893	4190.460	--	564.977	4192.377	0.019
564.977	4190.460	--	565.060	4192.377	0.022
565.060	4190.460	0.010	565.143	4192.377	0.024
565.143	4190.460	0.011	565.227	4192.377	0.026
565.227	4190.460	0.012	565.310	4192.377	0.029
565.310	4190.460	0.012	565.393	4192.377	0.033
565.393	4190.460	0.013	565.477	4192.377	0.039
565.477	4190.460	0.014	565.560	4192.377	0.045
565.560	4190.460	0.015	565.643	4192.377	0.055
565.643	4190.460	0.015	565.727	4192.377	0.068
565.727	4190.460	0.016	565.810	4192.377	0.087
565.810	4190.460	0.017	565.893	4192.377	0.119
565.893	4190.460	0.018	565.977	4192.377	0.170
565.977	4190.460	0.018	566.060	4192.377	0.255
566.060	4190.460	0.019	566.143	4192.377	0.424
566.143	4190.460	0.020	566.227	4192.377	0.798
566.227	4190.460	0.021	566.310	4192.377	1.889
566.310	4190.460	0.023	566.393	4192.377	5.212
566.393	4190.460	0.023	566.477	4192.377	10.146
566.477	4190.460	0.023	566.560	4192.377	22.184
566.560	4190.460	0.024	566.643	4192.377	13.118
566.643	4190.460	0.025	566.727	4192.377	7.920
566.727	4190.460	0.027	566.810	4192.377	5.254
566.810	4190.460	0.029	566.893	4192.377	3.399
566.893	4190.460	0.034	566.977	4192.377	2.379
566.977	4190.460	0.040	567.060	4192.377	1.758
567.060	4190.460	0.049	567.143	4192.377	1.637
567.143	4190.460	0.062	567.227	4192.377	1.626
567.227	4190.460	0.080	567.310	4192.377	1.753
567.310	4190.460	0.108	567.393	4192.377	2.120
567.393	4190.460	0.121	567.477	4192.377	2.895
567.477	4190.460	0.139	567.560	4192.377	3.899
567.560	4190.460	0.161	567.643	4192.377	3.852
567.643	4190.460	0.136	567.727	4192.377	3.508
567.727	4190.460	0.118	567.810	4192.377	3.197
567.810	4190.460	0.105	567.893	4192.377	2.924
567.893	4190.460	0.119	567.977	4192.377	2.675
567.977	4190.460	0.139	568.060	4192.377	2.445
568.060	4190.460	0.166	568.143	4192.377	2.228
568.143	4190.460	0.288	568.227	4192.377	2.018
568.227	4190.460	0.562	568.310	4192.377	1.810
568.310	4190.460	0.565	564.560	4192.460	0.011
564.560	4190.543	--	564.643	4192.460	0.013
564.643	4190.543	--	564.727	4192.460	0.014
564.727	4190.543	--	564.810	4192.460	0.015
564.810	4190.543	--	564.893	4192.460	0.017
564.893	4190.543	--	564.977	4192.460	0.019
564.977	4190.543	0.011	565.060	4192.460	0.021
565.060	4190.543	0.011	565.143	4192.460	0.023
565.143	4190.543	0.012	565.227	4192.460	0.026
565.227	4190.543	0.013	565.310	4192.460	0.029

565.310	4190.543	0.013	565.393	4192.460	0.034
565.393	4190.543	0.014	565.477	4192.460	0.039
565.477	4190.543	0.015	565.560	4192.460	0.047
565.560	4190.543	0.016	565.643	4192.460	0.057
565.643	4190.543	0.017	565.727	4192.460	0.072
565.727	4190.543	0.018	565.810	4192.460	0.093
565.810	4190.543	0.018	565.893	4192.460	0.129
565.893	4190.543	0.019	565.977	4192.460	0.188
565.977	4190.543	0.020	566.060	4192.460	0.292
566.060	4190.543	0.021	566.143	4192.460	0.537
566.143	4190.543	0.022	566.227	4192.460	1.156
566.227	4190.543	0.023	566.310	4192.460	2.923
566.310	4190.543	0.024	566.393	4192.460	6.336
566.393	4190.543	0.025	566.477	4192.460	11.224
566.477	4190.543	0.026	566.560	4192.460	19.536
566.560	4190.543	0.027	566.643	4192.460	15.337
566.643	4190.543	0.029	566.727	4192.460	11.325
566.727	4190.543	0.032	566.810	4192.460	8.487
566.810	4190.543	0.035	566.893	4192.460	4.593
566.893	4190.543	0.040	566.977	4192.460	2.865
566.977	4190.543	0.045	567.060	4192.460	1.965
567.060	4190.543	0.052	567.143	4192.460	2.003
567.143	4190.543	0.063	567.227	4192.460	2.251
567.227	4190.543	0.076	567.310	4192.460	2.885
567.310	4190.543	0.092	567.393	4192.460	4.339
567.393	4190.543	0.109	567.477	4192.460	4.371
567.477	4190.543	0.131	567.560	4192.460	3.971
567.560	4190.543	0.164	567.643	4192.460	3.607
567.643	4190.543	0.160	567.727	4192.460	3.288
567.727	4190.543	0.155	567.810	4192.460	3.006
567.810	4190.543	0.150	567.893	4192.460	2.755
567.893	4190.543	0.180	567.977	4192.460	2.526
567.977	4190.543	0.228	568.060	4192.460	2.313
568.060	4190.543	0.302	568.143	4192.460	2.112
568.143	4190.543	0.534	568.227	4192.460	1.915
568.227	4190.543	0.665	568.310	4192.460	1.721
568.310	4190.543	0.632	568.450	4192.543	0.011
564.560	4190.627	--	564.643	4192.543	0.012
564.643	4190.627	--	564.727	4192.543	0.014
564.727	4190.627	--	564.810	4192.543	0.015
564.810	4190.627	--	564.893	4192.543	0.017
564.893	4190.627	0.010	564.977	4192.543	0.019
564.977	4190.627	0.011	565.060	4192.543	0.021
565.060	4190.627	0.012	565.143	4192.543	0.024
565.143	4190.627	0.013	565.227	4192.543	0.028
565.227	4190.627	0.013	565.310	4192.543	0.032
565.310	4190.627	0.014	565.393	4192.543	0.037
565.393	4190.627	0.015	565.477	4192.543	0.044
565.477	4190.627	0.016	565.560	4192.543	0.053
565.560	4190.627	0.017	565.643	4192.543	0.068
565.643	4190.627	0.018	565.727	4192.543	0.090
565.727	4190.627	0.019	565.810	4192.543	0.123
565.810	4190.627	0.020	565.893	4192.543	0.176
565.893	4190.627	0.021	565.977	4192.543	0.268
565.977	4190.627	0.022	566.060	4192.543	0.438
566.060	4190.627	0.023	566.143	4192.543	0.816
566.143	4190.627	0.024	566.227	4192.543	1.622
566.227	4190.627	0.025	566.310	4192.543	3.183

566.310	4190.627	0.026	566.393	4192.543	5.066
566.393	4190.627	0.027	566.477	4192.543	8.343
566.477	4190.627	0.028	566.560	4192.543	12.980
566.560	4190.627	0.030	566.643	4192.543	13.679
566.643	4190.627	0.033	566.727	4192.543	12.761
566.727	4190.627	0.037	566.810	4192.543	11.116
566.810	4190.627	0.043	566.893	4192.543	8.637
566.893	4190.627	0.047	566.977	4192.543	5.010
566.977	4190.627	0.051	567.060	4192.543	2.962
567.060	4190.627	0.056	567.143	4192.543	3.405
567.143	4190.627	0.064	567.227	4192.543	4.169
567.227	4190.627	0.072	567.310	4192.543	4.662
567.310	4190.627	0.083	567.393	4192.543	4.430
567.393	4190.627	0.102	567.477	4192.543	4.022
567.477	4190.627	0.127	567.560	4192.543	3.657
567.560	4190.627	0.167	567.643	4192.543	3.337
567.643	4190.627	0.186	567.727	4192.543	3.054
567.727	4190.627	0.209	567.810	4192.543	2.802
567.810	4190.627	0.236	567.893	4192.543	2.576
567.893	4190.627	0.313	567.977	4192.543	2.368
567.977	4190.627	0.445	568.060	4192.543	2.173
568.060	4190.627	0.665	568.143	4192.543	1.988
568.143	4190.627	0.771	568.227	4192.543	1.807
568.227	4190.627	0.746	568.310	4192.543	1.627
568.310	4190.627	0.703	564.560	4192.627	0.011
564.560	4190.710	--	564.643	4192.627	0.012
564.643	4190.710	--	564.727	4192.627	0.014
564.727	4190.710	--	564.810	4192.627	0.015
564.810	4190.710	0.010	564.893	4192.627	0.017
564.893	4190.710	0.011	564.977	4192.627	0.019
564.977	4190.710	0.012	565.060	4192.627	0.022
565.060	4190.710	0.013	565.143	4192.627	0.026
565.143	4190.710	0.013	565.227	4192.627	0.030
565.227	4190.710	0.014	565.310	4192.627	0.036
565.310	4190.710	0.015	565.393	4192.627	0.042
565.393	4190.710	0.016	565.477	4192.627	0.051
565.477	4190.710	0.017	565.560	4192.627	0.063
565.560	4190.710	0.018	565.643	4192.627	0.085
565.643	4190.710	0.019	565.727	4192.627	0.119
565.727	4190.710	0.020	565.810	4192.627	0.173
565.810	4190.710	0.021	565.893	4192.627	0.252
565.893	4190.710	0.022	565.977	4192.627	0.387
565.977	4190.710	0.024	566.060	4192.627	0.623
566.060	4190.710	0.025	566.143	4192.627	1.077
566.143	4190.710	0.026	566.227	4192.627	1.854
566.227	4190.710	0.027	566.310	4192.627	3.006
566.310	4190.710	0.028	566.393	4192.627	4.365
566.393	4190.710	0.029	566.477	4192.627	6.710
566.477	4190.710	0.031	566.560	4192.627	9.427
566.560	4190.710	0.033	566.643	4192.627	10.329
566.643	4190.710	0.038	566.727	4192.627	9.760
566.727	4190.710	0.044	566.810	4192.627	8.861
566.810	4190.710	0.053	566.893	4192.627	7.882
566.893	4190.710	0.055	566.977	4192.627	6.946
566.977	4190.710	0.057	567.060	4192.627	5.822
567.060	4190.710	0.059	567.143	4192.627	5.417
567.143	4190.710	0.064	567.227	4192.627	4.910
567.227	4190.710	0.070	567.310	4192.627	4.432

567.310	4190.710	0.075	567.393	4192.627	4.024
567.393	4190.710	0.096	567.477	4192.627	3.664
567.477	4190.710	0.125	567.560	4192.627	3.349
567.560	4190.710	0.171	567.643	4192.627	3.070
567.643	4190.710	0.216	567.727	4192.627	2.823
567.727	4190.710	0.294	567.810	4192.627	2.600
567.810	4190.710	0.438	567.893	4192.627	2.398
567.893	4190.710	0.666	567.977	4192.627	2.210
567.977	4190.710	0.886	568.060	4192.627	2.034
568.060	4190.710	0.903	568.143	4192.627	1.864
568.143	4190.710	0.871	568.227	4192.627	1.698
568.227	4190.710	0.829	568.310	4192.627	1.532
568.310	4190.710	0.777	568.4560	4192.710	0.011
564.560	4190.793	--	564.643	4192.710	0.012
564.643	4190.793	--	564.727	4192.710	0.014
564.727	4190.793	--	564.810	4192.710	0.015
564.810	4190.793	0.011	564.893	4192.710	0.017
564.893	4190.793	0.012	564.977	4192.710	0.020
564.977	4190.793	0.012	565.060	4192.710	0.023
565.060	4190.793	0.013	565.143	4192.710	0.028
565.143	4190.793	0.014	565.227	4192.710	0.034
565.227	4190.793	0.015	565.310	4192.710	0.041
565.310	4190.793	0.016	565.393	4192.710	0.050
565.393	4190.793	0.017	565.477	4192.710	0.062
565.477	4190.793	0.018	565.560	4192.710	0.077
565.560	4190.793	0.019	565.643	4192.710	0.110
565.643	4190.793	0.021	565.727	4192.710	0.162
565.727	4190.793	0.022	565.810	4192.710	0.250
565.810	4190.793	0.023	565.893	4192.710	0.361
565.893	4190.793	0.024	565.977	4192.710	0.538
565.977	4190.793	0.025	566.060	4192.710	0.826
566.060	4190.793	0.026	566.143	4192.710	1.316
566.143	4190.793	0.028	566.227	4192.710	2.020
566.227	4190.793	0.029	566.310	4192.710	3.002
566.310	4190.793	0.030	566.393	4192.710	4.193
566.393	4190.793	0.032	566.477	4192.710	5.756
566.477	4190.793	0.034	566.560	4192.710	7.253
566.560	4190.793	0.037	566.643	4192.710	7.719
566.643	4190.793	0.045	566.727	4192.710	7.480
566.727	4190.793	0.055	566.810	4192.710	7.067
566.810	4190.793	0.068	566.893	4192.710	6.510
566.893	4190.793	0.073	566.977	4192.710	5.914
566.977	4190.793	0.078	567.060	4192.710	5.348
567.060	4190.793	0.083	567.143	4192.710	4.840
567.143	4190.793	0.088	567.227	4192.710	4.390
567.227	4190.793	0.093	567.310	4192.710	3.992
567.310	4190.793	0.098	567.393	4192.710	3.643
567.393	4190.793	0.115	567.477	4192.710	3.336
567.477	4190.793	0.134	567.560	4192.710	3.065
567.560	4190.793	0.158	567.643	4192.710	2.822
567.643	4190.793	0.184	567.727	4192.710	2.604
567.727	4190.793	0.219	567.810	4192.710	2.408
567.810	4190.793	0.271	567.893	4192.710	2.227
567.893	4190.793	0.397	567.977	4192.710	2.058
567.977	4190.793	0.669	568.060	4192.710	1.898
568.060	4190.793	0.972	568.143	4192.710	1.744
568.143	4190.793	0.951	568.227	4192.710	1.591
568.227	4190.793	0.908	568.310	4192.710	1.439

568.310	4190.793	0.852	564.560	4192.793	0.011
564.560	4190.877	--	564.643	4192.793	0.012
564.643	4190.877	--	564.727	4192.793	0.014
564.727	4190.877	0.010	564.810	4192.793	0.015
564.810	4190.877	0.011	564.893	4192.793	0.018
564.893	4190.877	0.012	564.977	4192.793	0.021
564.977	4190.877	0.013	565.060	4192.793	0.025
565.060	4190.877	0.014	565.143	4192.793	0.030
565.143	4190.877	0.015	565.227	4192.793	0.037
565.227	4190.877	0.016	565.310	4192.793	0.046
565.310	4190.877	0.017	565.393	4192.793	0.058
565.393	4190.877	0.018	565.477	4192.793	0.074
565.477	4190.877	0.019	565.560	4192.793	0.096
565.560	4190.877	0.021	565.643	4192.793	0.143
565.643	4190.877	0.022	565.727	4192.793	0.222
565.727	4190.877	0.023	565.810	4192.793	0.366
565.810	4190.877	0.024	565.893	4192.793	0.531
565.893	4190.877	0.026	565.977	4192.793	0.788
565.977	4190.877	0.027	566.060	4192.793	1.188
566.060	4190.877	0.028	566.143	4192.793	1.965
566.143	4190.877	0.030	566.227	4192.793	3.317
566.227	4190.877	0.031	566.310	4192.793	5.331
566.310	4190.877	0.033	566.393	4192.793	5.873
566.393	4190.877	0.035	566.477	4192.793	6.050
566.477	4190.877	0.039	566.560	4192.793	6.045
566.560	4190.877	0.043	566.643	4192.793	5.982
566.643	4190.877	0.053	566.727	4192.793	5.888
566.727	4190.877	0.069	566.810	4192.793	5.692
566.810	4190.877	0.089	566.893	4192.793	5.388
566.893	4190.877	0.099	566.977	4192.793	5.021
566.977	4190.877	0.109	567.060	4192.793	4.629
567.060	4190.877	0.119	567.143	4192.793	4.250
567.143	4190.877	0.123	567.227	4192.793	3.900
567.227	4190.877	0.127	567.310	4192.793	3.583
567.310	4190.877	0.130	567.393	4192.793	3.298
567.393	4190.877	0.137	567.477	4192.793	3.040
567.477	4190.877	0.144	567.560	4192.793	2.806
567.560	4190.877	0.150	567.643	4192.793	2.595
567.643	4190.877	0.167	567.727	4192.793	2.405
567.727	4190.877	0.185	567.810	4192.793	2.230
567.810	4190.877	0.207	567.893	4192.793	2.068
567.893	4190.877	0.278	567.977	4192.793	1.915
567.977	4190.877	0.445	568.060	4192.793	1.771
568.060	4190.877	0.890	568.143	4192.793	1.629
568.143	4190.877	0.866	568.227	4192.793	1.489
568.227	4190.877	0.829	568.310	4192.793	1.351
568.310	4190.877	0.783	564.560	4192.877	0.011
564.560	4190.960	--	564.643	4192.877	0.012
564.643	4190.960	--	564.727	4192.877	0.014
564.727	4190.960	0.010	564.810	4192.877	0.016
564.810	4190.960	0.011	564.893	4192.877	0.019
564.893	4190.960	0.012	564.977	4192.877	0.022
564.977	4190.960	0.013	565.060	4192.877	0.027
565.060	4190.960	0.014	565.143	4192.877	0.033
565.143	4190.960	0.016	565.227	4192.877	0.041
565.227	4190.960	0.017	565.310	4192.877	0.053
565.310	4190.960	0.018	565.393	4192.877	0.068
565.393	4190.960	0.019	565.477	4192.877	0.089

565.477	4190.960	0.020	565.560	4192.877	0.120
565.560	4190.960	0.022	565.643	4192.877	0.186
565.643	4190.960	0.023	565.727	4192.877	0.307
565.727	4190.960	0.024	565.810	4192.877	0.562
565.810	4190.960	0.026	565.893	4192.877	0.828
565.893	4190.960	0.027	565.977	4192.877	1.244
565.977	4190.960	0.029	566.060	4192.877	1.892
566.060	4190.960	0.030	566.143	4192.877	3.372
566.143	4190.960	0.032	566.227	4192.877	4.615
566.227	4190.960	0.034	566.310	4192.877	4.815
566.310	4190.960	0.035	566.393	4192.877	4.836
566.393	4190.960	0.039	566.477	4192.877	4.845
566.477	4190.960	0.043	566.560	4192.877	4.821
566.560	4190.960	0.049	566.643	4192.877	4.780
566.643	4190.960	0.064	566.727	4192.877	4.743
566.727	4190.960	0.086	566.810	4192.877	4.661
566.810	4190.960	0.118	566.893	4192.877	4.502
566.893	4190.960	0.136	566.977	4192.877	4.275
566.977	4190.960	0.156	567.060	4192.877	4.008
567.060	4190.960	0.179	567.143	4192.877	3.728
567.143	4190.960	0.178	567.227	4192.877	3.459
567.227	4190.960	0.177	567.310	4192.877	3.209
567.310	4190.960	0.175	567.393	4192.877	2.978
567.393	4190.960	0.164	567.477	4192.877	2.766
567.477	4190.960	0.154	567.560	4192.877	2.570
567.560	4190.960	0.145	567.643	4192.877	2.389
567.643	4190.960	0.156	567.727	4192.877	2.222
567.727	4190.960	0.167	567.810	4192.877	2.067
567.810	4190.960	0.178	567.893	4192.877	1.922
567.893	4190.960	0.226	567.977	4192.877	1.785
567.977	4190.960	0.330	568.060	4192.877	1.653
568.060	4190.960	0.652	568.143	4192.877	1.523
568.143	4190.960	0.566	568.227	4192.877	1.395
568.227	4190.960	0.487	568.310	4192.877	1.267
568.310	4190.960	0.415	564.560	4192.960	0.011
564.560	4191.043	--	564.643	4192.960	0.012
564.643	4191.043	--	564.727	4192.960	0.014
564.727	4191.043	0.011	564.810	4192.960	0.016
564.810	4191.043	0.012	564.893	4192.960	0.020
564.893	4191.043	0.013	564.977	4192.960	0.024
564.977	4191.043	0.014	565.060	4192.960	0.029
565.060	4191.043	0.015	565.143	4192.960	0.037
565.143	4191.043	0.016	565.227	4192.960	0.047
565.227	4191.043	0.017	565.310	4192.960	0.060
565.310	4191.043	0.019	565.393	4192.960	0.080
565.393	4191.043	0.020	565.477	4192.960	0.108
565.477	4191.043	0.022	565.560	4192.960	0.148
565.560	4191.043	0.023	565.643	4192.960	0.242
565.643	4191.043	0.025	565.727	4192.960	0.436
565.727	4191.043	0.026	565.810	4192.960	0.959
565.810	4191.043	0.027	565.893	4192.960	1.451
565.893	4191.043	0.029	565.977	4192.960	2.183
565.977	4191.043	0.031	566.060	4192.960	3.158
566.060	4191.043	0.033	566.143	4192.960	3.703
566.143	4191.043	0.035	566.227	4192.960	3.890
566.227	4191.043	0.037	566.310	4192.960	3.951
566.310	4191.043	0.039	566.393	4192.960	3.965
566.393	4191.043	0.044	566.477	4192.960	3.956

566.477	4191.043	0.051	566.560	4192.960	3.933
566.560	4191.043	0.061	566.643	4192.960	3.914
566.643	4191.043	0.081	566.727	4192.960	3.901
566.727	4191.043	0.109	566.810	4192.960	3.872
566.810	4191.043	0.149	566.893	4192.960	3.794
566.893	4191.043	0.178	566.977	4192.960	3.658
566.977	4191.043	0.212	567.060	4192.960	3.476
567.060	4191.043	0.256	567.143	4192.960	3.275
567.143	4191.043	0.255	567.227	4192.960	3.070
567.227	4191.043	0.253	567.310	4192.960	2.872
567.310	4191.043	0.251	567.393	4192.960	2.687
567.393	4191.043	0.232	567.477	4192.960	2.511
567.477	4191.043	0.216	567.560	4192.960	2.348
567.560	4191.043	0.202	567.643	4192.960	2.195
567.643	4191.043	0.201	567.727	4192.960	2.053
567.727	4191.043	0.198	567.810	4192.960	1.917
567.810	4191.043	0.195	567.893	4192.960	1.788
567.893	4191.043	0.232	567.977	4192.960	1.665
567.977	4191.043	0.301	568.060	4192.960	1.546
568.060	4191.043	0.463	568.143	4192.960	1.427
568.143	4191.043	0.575	568.227	4192.960	1.309
568.227	4191.043	0.742	568.310	4192.960	1.191
568.310	4191.043	0.942	564.560	4193.043	0.011
564.560	4191.127	--	564.643	4193.043	0.013
564.643	4191.127	--	564.727	4193.043	0.015
564.727	4191.127	0.011	564.810	4193.043	0.017
564.810	4191.127	0.012	564.893	4193.043	0.021
564.893	4191.127	0.013	564.977	4193.043	0.026
564.977	4191.127	0.014	565.060	4193.043	0.032
565.060	4191.127	0.015	565.143	4193.043	0.039
565.143	4191.127	0.017	565.227	4193.043	0.049
565.227	4191.127	0.018	565.310	4193.043	0.061
565.310	4191.127	0.019	565.393	4193.043	0.082
565.393	4191.127	0.021	565.477	4193.043	0.113
565.477	4191.127	0.023	565.560	4193.043	0.157
565.560	4191.127	0.025	565.643	4193.043	0.236
565.643	4191.127	0.026	565.727	4193.043	0.372
565.727	4191.127	0.028	565.810	4193.043	0.639
565.810	4191.127	0.029	565.893	4193.043	0.994
565.893	4191.127	0.031	565.977	4193.043	1.620
565.977	4191.127	0.034	566.060	4193.043	2.626
566.060	4191.127	0.036	566.143	4193.043	3.167
566.143	4191.127	0.038	566.227	4193.043	3.280
566.227	4191.127	0.040	566.310	4193.043	3.302
566.310	4191.127	0.043	566.393	4193.043	3.303
566.393	4191.127	0.051	566.477	4193.043	3.287
566.477	4191.127	0.061	566.560	4193.043	3.269
566.560	4191.127	0.076	566.643	4193.043	3.260
566.643	4191.127	0.102	566.727	4193.043	3.258
566.727	4191.127	0.138	566.810	4193.043	3.257
566.810	4191.127	0.193	566.893	4193.043	3.224
566.893	4191.127	0.240	566.977	4193.043	3.144
566.977	4191.127	0.306	567.060	4193.043	3.026
567.060	4191.127	0.405	567.143	4193.043	2.883
567.143	4191.127	0.406	567.227	4193.043	2.730
567.227	4191.127	0.405	567.310	4193.043	2.575
567.310	4191.127	0.402	567.393	4193.043	2.424
567.393	4191.127	0.361	567.477	4193.043	2.279

567.477	4191.127	0.327	567.560	4193.043	2.143
567.560	4191.127	0.297	567.643	4193.043	2.015
567.643	4191.127	0.263	567.727	4193.043	1.893
567.727	4191.127	0.235	567.810	4193.043	1.776
567.810	4191.127	0.212	567.893	4193.043	1.664
567.893	4191.127	0.240	567.977	4193.043	1.554
567.977	4191.127	0.282	568.060	4193.043	1.446
568.060	4191.127	0.359	568.143	4193.043	1.338
568.143	4191.127	0.581	568.227	4193.043	1.230
568.227	4191.127	1.130	568.310	4193.043	1.119
568.310	4191.127	1.199	564.560	4193.127	0.011
564.560	4191.210	--	564.643	4193.127	0.013
564.643	4191.210	--	564.727	4193.127	0.015
564.727	4191.210	0.011	564.810	4193.127	0.018
564.810	4191.210	0.012	564.893	4193.127	0.022
564.893	4191.210	0.013	564.977	4193.127	0.028
564.977	4191.210	0.015	565.060	4193.127	0.035
565.060	4191.210	0.016	565.143	4193.127	0.042
565.143	4191.210	0.017	565.227	4193.127	0.051
565.227	4191.210	0.019	565.310	4193.127	0.062
565.310	4191.210	0.020	565.393	4193.127	0.084
565.393	4191.210	0.022	565.477	4193.127	0.117
565.477	4191.210	0.024	565.560	4193.127	0.163
565.560	4191.210	0.026	565.643	4193.127	0.227
565.643	4191.210	0.028	565.727	4193.127	0.321
565.727	4191.210	0.029	565.810	4193.127	0.464
565.810	4191.210	0.031	565.893	4193.127	0.714
565.893	4191.210	0.033	565.977	4193.127	1.196
565.977	4191.210	0.036	566.060	4193.127	2.146
566.060	4191.210	0.039	566.143	4193.127	2.711
566.143	4191.210	0.042	566.227	4193.127	2.785
566.227	4191.210	0.045	566.310	4193.127	2.790
566.310	4191.210	0.048	566.393	4193.127	2.787
566.393	4191.210	0.058	566.477	4193.127	2.772
566.477	4191.210	0.074	566.560	4193.127	2.758
566.560	4191.210	0.097	566.643	4193.127	2.755
566.643	4191.210	0.131	566.727	4193.127	2.756
566.727	4191.210	0.181	566.810	4193.127	2.763
566.810	4191.210	0.258	566.893	4193.127	2.753
566.893	4191.210	0.345	566.977	4193.127	2.715
566.977	4191.210	0.492	567.060	4193.127	2.641
567.060	4191.210	0.758	567.143	4193.127	2.544
567.143	4191.210	0.780	567.227	4193.127	2.430
567.227	4191.210	0.798	567.310	4193.127	2.312
567.310	4191.210	0.810	567.393	4193.127	2.190
567.393	4191.210	0.704	567.477	4193.127	2.071
567.477	4191.210	0.614	567.560	4193.127	1.957
567.560	4191.210	0.538	567.643	4193.127	1.848
567.643	4191.210	0.364	567.727	4193.127	1.744
567.727	4191.210	0.280	567.810	4193.127	1.642
567.810	4191.210	0.230	567.893	4193.127	1.545
567.893	4191.210	0.247	567.977	4193.127	1.448
567.977	4191.210	0.270	568.060	4193.127	1.351
568.060	4191.210	0.302	568.143	4193.127	1.254
568.143	4191.210	0.586	568.227	4193.127	1.155
568.227	4191.210	1.382	568.310	4193.127	1.053
568.310	4191.210	1.300	564.560	4193.210	0.012
564.560	4191.293	--	564.643	4193.210	0.014

564.643	4191.293	0.010	564.727	4193.210	0.016
564.727	4191.293	0.011	564.810	4193.210	0.019
564.810	4191.293	0.012	564.893	4193.210	0.024
564.893	4191.293	0.014	564.977	4193.210	0.030
564.977	4191.293	0.015	565.060	4193.210	0.039
565.060	4191.293	0.016	565.143	4193.210	0.045
565.143	4191.293	0.018	565.227	4193.210	0.053
565.227	4191.293	0.019	565.310	4193.210	0.062
565.310	4191.293	0.021	565.393	4193.210	0.085
565.393	4191.293	0.023	565.477	4193.210	0.119
565.477	4191.293	0.025	565.560	4193.210	0.167
565.560	4191.293	0.027	565.643	4193.210	0.215
565.643	4191.293	0.029	565.727	4193.210	0.277
565.727	4191.293	0.031	565.810	4193.210	0.354
565.810	4191.293	0.033	565.893	4193.210	0.534
565.893	4191.293	0.036	565.977	4193.210	0.899
565.977	4191.293	0.039	566.060	4193.210	1.747
566.060	4191.293	0.042	566.143	4193.210	2.323
566.143	4191.293	0.046	566.227	4193.210	2.383
566.227	4191.293	0.050	566.310	4193.210	2.381
566.310	4191.293	0.056	566.393	4193.210	2.377
566.393	4191.293	0.067	566.477	4193.210	2.365
566.477	4191.293	0.086	566.560	4193.210	2.354
566.560	4191.293	0.113	566.643	4193.210	2.354
566.643	4191.293	0.151	566.727	4193.210	2.356
566.727	4191.293	0.205	566.810	4193.210	2.364
566.810	4191.293	0.283	566.893	4193.210	2.369
566.893	4191.293	0.395	566.977	4193.210	2.354
566.977	4191.293	0.606	567.060	4193.210	2.314
567.060	4191.293	1.061	567.143	4193.210	2.250
567.143	4191.293	1.040	567.227	4193.210	2.169
567.227	4191.293	1.013	567.310	4193.210	2.077
567.310	4191.293	0.974	567.393	4193.210	1.981
567.393	4191.293	0.972	567.477	4193.210	1.885
567.477	4191.293	0.961	567.560	4193.210	1.790
567.560	4191.293	0.944	567.643	4193.210	1.697
567.643	4191.293	0.594	567.727	4193.210	1.605
567.727	4191.293	0.417	567.810	4193.210	1.518
567.810	4191.293	0.325	567.893	4193.210	1.432
567.893	4191.293	0.315	567.977	4193.210	1.347
567.977	4191.293	0.304	568.060	4193.210	1.261
568.060	4191.293	0.291	568.143	4193.210	1.173
568.143	4191.293	0.474	568.227	4193.210	1.083
568.227	4191.293	1.251	568.310	4193.210	0.990
568.310	4191.293	1.402	564.560	4193.293	0.013
564.560	4191.377	--	564.643	4193.293	0.015
564.643	4191.377	0.011	564.727	4193.293	0.018
564.727	4191.377	0.012	564.810	4193.293	0.021
564.810	4191.377	0.013	564.893	4193.293	0.026
564.893	4191.377	0.014	564.977	4193.293	0.033
564.977	4191.377	0.015	565.060	4193.293	0.041
565.060	4191.377	0.017	565.143	4193.293	0.049
565.143	4191.377	0.018	565.227	4193.293	0.059
565.227	4191.377	0.020	565.310	4193.293	0.071
565.310	4191.377	0.022	565.393	4193.293	0.096
565.393	4191.377	0.024	565.477	4193.293	0.132
565.477	4191.377	0.026	565.560	4193.293	0.183
565.560	4191.377	0.029	565.643	4193.293	0.238

565.643	4191.377	0.031	565.727	4193.293	0.309
565.727	4191.377	0.033	565.810	4193.293	0.404
565.810	4191.377	0.035	565.893	4193.293	0.609
565.893	4191.377	0.038	565.977	4193.293	1.030
565.977	4191.377	0.042	566.060	4193.293	1.836
566.060	4191.377	0.045	566.143	4193.293	2.042
566.143	4191.377	0.051	566.227	4193.293	2.052
566.227	4191.377	0.057	566.310	4193.293	2.052
566.310	4191.377	0.065	566.393	4193.293	2.049
566.393	4191.377	0.079	566.477	4193.293	2.040
566.477	4191.377	0.101	566.560	4193.293	2.034
566.560	4191.377	0.133	566.643	4193.293	2.033
566.643	4191.377	0.176	566.727	4193.293	2.037
566.727	4191.377	0.234	566.810	4193.293	2.043
566.810	4191.377	0.314	566.893	4193.293	2.054
566.893	4191.377	0.457	566.977	4193.293	2.052
566.977	4191.377	0.759	567.060	4193.293	2.034
567.060	4191.377	1.539	567.143	4193.293	1.995
567.143	4191.377	1.416	567.227	4193.293	1.940
567.227	4191.377	1.295	567.310	4193.293	1.872
567.310	4191.377	1.174	567.393	4193.293	1.796
567.393	4191.377	1.383	567.477	4193.293	1.718
567.477	4191.377	1.653	567.560	4193.293	1.638
567.560	4191.377	1.926	567.643	4193.293	1.558
567.643	4191.377	1.221	567.727	4193.293	1.480
567.727	4191.377	0.797	567.810	4193.293	1.403
567.810	4191.377	0.565	567.893	4193.293	1.327
567.893	4191.377	0.427	567.977	4193.293	1.251
567.977	4191.377	0.343	568.060	4193.293	1.174
568.060	4191.377	0.284	568.143	4193.293	1.096
568.143	4191.377	0.399	568.227	4193.293	1.013
568.227	4191.377	0.812	568.310	4193.293	0.928
568.310	4191.377	1.494	568.493	4193.377	0.014
564.560	4191.460	--	564.643	4193.377	0.017
564.643	4191.460	0.011	564.727	4193.377	0.020
564.727	4191.460	0.012	564.810	4193.377	0.024
564.810	4191.460	0.013	564.893	4193.377	0.029
564.893	4191.460	0.015	564.977	4193.377	0.036
564.977	4191.460	0.016	565.060	4193.377	0.044
565.060	4191.460	0.017	565.143	4193.377	0.053
565.143	4191.460	0.019	565.227	4193.377	0.065
565.227	4191.460	0.021	565.310	4193.377	0.080
565.310	4191.460	0.023	565.393	4193.377	0.107
565.393	4191.460	0.025	565.477	4193.377	0.145
565.477	4191.460	0.027	565.560	4193.377	0.198
565.560	4191.460	0.030	565.643	4193.377	0.260
565.643	4191.460	0.033	565.727	4193.377	0.346
565.727	4191.460	0.035	565.810	4193.377	0.472
565.810	4191.460	0.038	565.893	4193.377	0.718
565.893	4191.460	0.041	565.977	4193.377	1.191
565.977	4191.460	0.045	566.060	4193.377	1.739
566.060	4191.460	0.049	566.143	4193.377	1.787
566.143	4191.460	0.056	566.227	4193.377	1.786
566.227	4191.460	0.065	566.310	4193.377	1.785
566.310	4191.460	0.076	566.393	4193.377	1.783
566.393	4191.460	0.094	566.477	4193.377	1.777
566.477	4191.460	0.120	566.560	4193.377	1.773
566.560	4191.460	0.158	566.643	4193.377	1.774

566.643	4191.460	0.207	566.727	4193.377	1.776
566.727	4191.460	0.271	566.810	4193.377	1.773
566.810	4191.460	0.352	566.893	4193.377	1.792
566.893	4191.460	0.533	566.977	4193.377	1.800
566.977	4191.460	0.966	567.060	4193.377	1.796
567.060	4191.460	2.221	567.143	4193.377	1.775
567.143	4191.460	1.978	567.227	4193.377	1.739
567.227	4191.460	1.682	567.310	4193.377	1.690
567.310	4191.460	1.422	567.393	4193.377	1.632
567.393	4191.460	2.045	567.477	4193.377	1.568
567.477	4191.460	2.509	567.560	4193.377	1.500
567.560	4191.460	2.576	567.643	4193.377	1.432
567.643	4191.460	2.437	567.727	4193.377	1.365
567.727	4191.460	2.108	567.810	4193.377	1.298
567.810	4191.460	1.547	567.893	4193.377	1.230
567.893	4191.460	0.660	567.977	4193.377	1.161
567.977	4191.460	0.389	568.060	4193.377	1.092
568.060	4191.460	0.280	568.143	4193.377	1.021
568.143	4191.460	0.353	568.227	4193.377	0.946
568.227	4191.460	0.565	568.310	4193.377	0.868
568.310	4191.460	1.314	568.493	4193.460	0.016
564.560	4191.543	0.010	564.643	4193.460	0.019
564.643	4191.543	0.011	564.727	4193.460	0.022
564.727	4191.543	0.012	564.810	4193.460	0.027
564.810	4191.543	0.014	564.893	4193.460	0.032
564.893	4191.543	0.015	564.977	4193.460	0.038
564.977	4191.543	0.016	565.060	4193.460	0.046
565.060	4191.543	0.018	565.143	4193.460	0.057
565.143	4191.543	0.020	565.227	4193.460	0.071
565.227	4191.543	0.021	565.310	4193.460	0.089
565.310	4191.543	0.023	565.393	4193.460	0.118
565.393	4191.543	0.026	565.477	4193.460	0.157
565.477	4191.543	0.029	565.560	4193.460	0.212
565.560	4191.543	0.032	565.643	4193.460	0.284
565.643	4191.543	0.035	565.727	4193.460	0.392
565.727	4191.543	0.037	565.810	4193.460	0.576
565.810	4191.543	0.040	565.893	4193.460	0.878
565.893	4191.543	0.044	565.977	4193.460	1.364
565.977	4191.543	0.048	566.060	4193.460	1.561
566.060	4191.543	0.053	566.143	4193.460	1.571
566.143	4191.543	0.060	566.227	4193.460	1.566
566.227	4191.543	0.069	566.310	4193.460	1.566
566.310	4191.543	0.080	566.393	4193.460	1.565
566.393	4191.543	0.097	566.477	4193.460	1.561
566.477	4191.543	0.125	566.560	4193.460	1.558
566.560	4191.543	0.166	566.643	4193.460	1.560
566.643	4191.543	0.219	566.727	4193.460	1.556
566.727	4191.543	0.289	566.810	4193.460	1.474
566.810	4191.543	0.372	566.893	4193.460	1.511
566.893	4191.543	0.489	566.977	4193.460	1.542
566.977	4191.543	0.661	567.060	4193.460	1.561
567.060	4191.543	0.985	567.143	4193.460	1.573
567.143	4191.543	0.984	567.227	4193.460	1.558
567.227	4191.543	0.969	567.310	4193.460	1.526
567.310	4191.543	0.945	567.393	4193.460	1.482
567.393	4191.543	1.294	567.477	4193.460	1.432
567.477	4191.543	1.930	567.560	4193.460	1.376
567.560	4191.543	2.657	567.643	4193.460	1.318

567.643	4191.543	2.503	567.727	4193.460	1.260
567.727	4191.543	2.341	567.810	4193.460	1.200
567.810	4191.543	2.172	567.893	4193.460	1.140
567.893	4191.543	1.298	567.977	4193.460	1.079
567.977	4191.543	0.808	568.060	4193.460	1.016
568.060	4191.543	0.554	568.143	4193.460	0.950
568.143	4191.543	0.720	568.227	4193.460	0.882
568.227	4191.543	1.036	568.310	4193.460	0.811
568.310	4191.543	1.512	564.560	4193.543	0.017
564.560	4191.627	0.011	564.643	4193.543	0.021
564.643	4191.627	0.012	564.727	4193.543	0.025
564.727	4191.627	0.013	564.810	4193.543	0.031
564.810	4191.627	0.014	564.893	4193.543	0.037
564.893	4191.627	0.015	564.977	4193.543	0.044
564.977	4191.627	0.017	565.060	4193.543	0.052
565.060	4191.627	0.018	565.143	4193.543	0.064
565.143	4191.627	0.020	565.227	4193.543	0.080
565.227	4191.627	0.022	565.310	4193.543	0.098
565.310	4191.627	0.024	565.393	4193.543	0.129
565.393	4191.627	0.027	565.477	4193.543	0.172
565.477	4191.627	0.030	565.560	4193.543	0.232
565.560	4191.627	0.034	565.643	4193.543	0.295
565.643	4191.627	0.037	565.727	4193.543	0.384
565.727	4191.627	0.040	565.810	4193.543	0.517
565.810	4191.627	0.043	565.893	4193.543	0.807
565.893	4191.627	0.048	565.977	4193.543	1.271
565.977	4191.627	0.053	566.060	4193.543	1.388
566.060	4191.627	0.058	566.143	4193.543	1.388
566.143	4191.627	0.065	566.227	4193.543	1.383
566.227	4191.627	0.074	566.310	4193.543	1.384
566.310	4191.627	0.083	566.393	4193.543	1.384
566.393	4191.627	0.101	566.477	4193.543	1.381
566.477	4191.627	0.131	566.560	4193.543	1.380
566.560	4191.627	0.176	566.643	4193.543	1.381
566.643	4191.627	0.237	566.727	4193.543	1.361
566.727	4191.627	0.313	566.810	4193.543	1.151
566.810	4191.627	0.405	566.893	4193.543	1.187
566.893	4191.627	0.481	566.977	4193.543	1.224
566.977	4191.627	0.558	567.060	4193.543	1.257
567.060	4191.627	0.637	567.143	4193.543	1.361
567.143	4191.627	0.667	567.227	4193.543	1.390
567.227	4191.627	0.694	567.310	4193.543	1.378
567.310	4191.627	0.721	567.393	4193.543	1.347
567.393	4191.627	0.914	567.477	4193.543	1.308
567.477	4191.627	1.267	567.560	4193.543	1.263
567.560	4191.627	1.994	567.643	4193.543	1.214
567.643	4191.627	2.353	567.727	4193.543	1.163
567.727	4191.627	2.595	567.810	4193.543	1.110
567.810	4191.627	2.664	567.893	4193.543	1.057
567.893	4191.627	2.528	567.977	4193.543	1.001
567.977	4191.627	2.386	568.060	4193.543	0.944
568.060	4191.627	2.238	568.143	4193.543	0.884
568.143	4191.627	2.063	568.227	4193.543	0.821
568.227	4191.627	1.878	568.310	4193.543	0.756
568.310	4191.627	1.685	564.560	4193.627	0.018
564.560	4191.710	0.011	564.643	4193.627	0.023
564.643	4191.710	0.012	564.727	4193.627	0.028
564.727	4191.710	0.013	564.810	4193.627	0.035

564.810	4191.710	0.015	564.893	4193.627	0.042
564.893	4191.710	0.016	564.977	4193.627	0.049
564.977	4191.710	0.017	565.060	4193.627	0.059
565.060	4191.710	0.019	565.143	4193.627	0.072
565.143	4191.710	0.021	565.227	4193.627	0.088
565.227	4191.710	0.023	565.310	4193.627	0.107
565.310	4191.710	0.025	565.393	4193.627	0.141
565.393	4191.710	0.028	565.477	4193.627	0.186
565.477	4191.710	0.032	565.560	4193.627	0.253
565.560	4191.710	0.036	565.643	4193.627	0.306
565.643	4191.710	0.039	565.727	4193.627	0.374
565.727	4191.710	0.042	565.810	4193.627	0.463
565.810	4191.710	0.046	565.893	4193.627	0.741
565.893	4191.710	0.052	565.977	4193.627	1.173
565.977	4191.710	0.058	566.060	4193.627	1.237
566.060	4191.710	0.064	566.143	4193.627	1.233
566.143	4191.710	0.071	566.227	4193.627	1.229
566.227	4191.710	0.078	566.310	4193.627	1.230
566.310	4191.710	0.088	566.393	4193.627	1.231
566.393	4191.710	0.107	566.477	4193.627	1.230
566.477	4191.710	0.139	566.560	4193.627	1.229
566.560	4191.710	0.191	566.643	4193.627	1.229
566.643	4191.710	0.262	566.727	4193.627	1.164
566.727	4191.710	0.350	566.810	4193.627	0.871
566.810	4191.710	0.451	566.893	4193.627	0.883
566.893	4191.710	0.495	566.977	4193.627	0.898
566.977	4191.710	0.525	567.060	4193.627	0.913
567.060	4191.710	0.540	567.143	4193.627	1.086
567.143	4191.710	0.571	567.227	4193.627	1.209
567.227	4191.710	0.599	567.310	4193.627	1.238
567.310	4191.710	0.630	567.393	4193.627	1.224
567.393	4191.710	0.730	567.477	4193.627	1.194
567.477	4191.710	0.936	567.560	4193.627	1.158
567.560	4191.710	1.352	567.643	4193.627	1.118
567.643	4191.710	1.987	567.727	4193.627	1.074
567.727	4191.710	2.860	567.810	4193.627	1.028
567.810	4191.710	2.982	567.893	4193.627	0.979
567.893	4191.710	2.833	567.977	4193.627	0.929
567.977	4191.710	2.656	568.060	4193.627	0.877
568.060	4191.710	2.474	568.143	4193.627	0.822
568.143	4191.710	2.285	568.227	4193.627	0.764
568.227	4191.710	2.087	568.310	4193.627	0.704
568.310	4191.710	1.816	564.560	4193.710	0.019
564.560	4191.793	0.012	564.643	4193.710	0.024
564.643	4191.793	0.013	564.727	4193.710	0.031
564.727	4191.793	0.014	564.810	4193.710	0.040
564.810	4191.793	0.015	564.893	4193.710	0.047
564.893	4191.793	0.017	564.977	4193.710	0.056
564.977	4191.793	0.018	565.060	4193.710	0.065
565.060	4191.793	0.020	565.143	4193.710	0.079
565.143	4191.793	0.022	565.227	4193.710	0.096
565.227	4191.793	0.024	565.310	4193.710	0.116
565.310	4191.793	0.026	565.393	4193.710	0.152
565.393	4191.793	0.029	565.477	4193.710	0.202
565.477	4191.793	0.033	565.560	4193.710	0.279
565.560	4191.793	0.037	565.643	4193.710	0.319
565.643	4191.793	0.041	565.727	4193.710	0.363
565.727	4191.793	0.046	565.810	4193.710	0.414

565.810	4191.793	0.050	565.893	4193.710	0.679
565.893	4191.793	0.058	565.977	4193.710	1.073
565.977	4191.793	0.066	566.060	4193.710	1.104
566.060	4191.793	0.075	566.143	4193.710	1.100
566.143	4191.793	0.085	566.227	4193.710	1.097
566.227	4191.793	0.098	566.310	4193.710	1.099
566.310	4191.793	0.114	566.393	4193.710	1.100
566.393	4191.793	0.134	566.477	4193.710	1.100
566.477	4191.793	0.168	566.560	4193.710	1.100
566.560	4191.793	0.221	566.643	4193.710	1.094
566.643	4191.793	0.302	566.727	4193.710	0.941
566.727	4191.793	0.396	566.810	4193.710	0.664
566.810	4191.793	0.491	566.893	4193.710	0.660
566.893	4191.793	0.535	566.977	4193.710	0.660
566.977	4191.793	0.557	567.060	4193.710	0.660
567.060	4191.793	0.563	567.143	4193.710	0.815
567.143	4191.793	0.587	567.227	4193.710	0.991
567.227	4191.793	0.604	567.310	4193.710	1.099
567.310	4191.793	0.623	567.393	4193.710	1.107
567.393	4191.793	0.696	567.477	4193.710	1.089
567.477	4191.793	0.841	567.560	4193.710	1.061
567.560	4191.793	1.180	567.643	4193.710	1.028
567.643	4191.793	1.383	567.727	4193.710	0.991
567.727	4191.793	1.677	567.810	4193.710	0.951
567.810	4191.793	2.106	567.893	4193.710	0.908
567.893	4191.793	2.946	567.977	4193.710	0.862
567.977	4191.793	2.789	568.060	4193.710	0.814
568.060	4191.793	2.581	568.143	4193.710	0.764
568.143	4191.793	2.371	568.227	4193.710	0.711
568.227	4191.793	2.160	568.310	4193.710	0.655
568.310	4191.793	1.944	564.560	4193.793	0.021
564.560	4191.877	0.012	564.643	4193.793	0.026
564.643	4191.877	0.013	564.727	4193.793	0.034
564.727	4191.877	0.014	564.810	4193.793	0.043
564.810	4191.877	0.016	564.893	4193.793	0.051
564.893	4191.877	0.017	564.977	4193.793	0.060
564.977	4191.877	0.019	565.060	4193.793	0.070
565.060	4191.877	0.021	565.143	4193.793	0.085
565.143	4191.877	0.023	565.227	4193.793	0.105
565.227	4191.877	0.025	565.310	4193.793	0.128
565.310	4191.877	0.027	565.393	4193.793	0.164
565.393	4191.877	0.030	565.477	4193.793	0.216
565.477	4191.877	0.034	565.560	4193.793	0.296
565.560	4191.877	0.039	565.643	4193.793	0.358
565.643	4191.877	0.043	565.727	4193.793	0.438
565.727	4191.877	0.049	565.810	4193.793	0.544
565.810	4191.877	0.055	565.893	4193.793	0.765
565.893	4191.877	0.065	565.977	4193.793	0.968
565.977	4191.877	0.076	566.060	4193.793	0.988
566.060	4191.877	0.089	566.143	4193.793	0.984
566.143	4191.877	0.105	566.227	4193.793	0.982
566.227	4191.877	0.125	566.310	4193.793	0.984
566.310	4191.877	0.154	566.393	4193.793	0.986
566.393	4191.877	0.172	566.477	4193.793	0.985
566.477	4191.877	0.207	566.560	4193.793	0.975
566.560	4191.877	0.267	566.643	4193.793	0.867
566.643	4191.877	0.367	566.727	4193.793	0.661
566.727	4191.877	0.471	566.810	4193.793	0.503

566.810	4191.877	0.563	566.893	4193.793	0.551
566.893	4191.877	0.602	566.977	4193.793	0.607
566.977	4191.877	0.615	567.060	4193.793	0.669
567.060	4191.877	0.608	567.143	4193.793	0.868
567.143	4191.877	0.620	567.227	4193.793	1.003
567.227	4191.877	0.628	567.310	4193.793	1.020
567.310	4191.877	0.636	567.393	4193.793	1.011
567.393	4191.877	0.690	567.477	4193.793	0.994
567.477	4191.877	0.795	567.560	4193.793	0.971
567.560	4191.877	1.061	567.643	4193.793	0.944
567.643	4191.877	1.048	567.727	4193.793	0.913
567.727	4191.877	1.038	567.810	4193.793	0.878
567.810	4191.877	1.031	567.893	4193.793	0.840
567.893	4191.877	2.333	567.977	4193.793	0.799
567.977	4191.877	2.878	568.060	4193.793	0.755
568.060	4191.877	2.656	568.143	4193.793	0.709
568.143	4191.877	2.430	568.227	4193.793	0.660
568.227	4191.877	2.205	568.310	4193.793	0.609
568.310	4191.877	1.981	564.560	4193.877	0.022
564.560	4191.960	0.012	564.643	4193.877	0.028
564.643	4191.960	0.013	564.727	4193.877	0.036
564.727	4191.960	0.015	564.810	4193.877	0.046
564.810	4191.960	0.016	564.893	4193.877	0.054
564.893	4191.960	0.018	564.977	4193.877	0.063
564.977	4191.960	0.020	565.060	4193.877	0.073
565.060	4191.960	0.022	565.143	4193.877	0.091
565.143	4191.960	0.023	565.227	4193.877	0.113
565.227	4191.960	0.025	565.310	4193.877	0.140
565.310	4191.960	0.028	565.393	4193.877	0.178
565.393	4191.960	0.031	565.477	4193.877	0.232
565.477	4191.960	0.035	565.560	4193.877	0.316
565.560	4191.960	0.040	565.643	4193.877	0.412
565.643	4191.960	0.046	565.727	4193.877	0.551
565.727	4191.960	0.053	565.810	4193.877	0.743
565.810	4191.960	0.061	565.893	4193.877	0.834
565.893	4191.960	0.073	565.977	4193.877	0.873
565.977	4191.960	0.089	566.060	4193.877	0.882
566.060	4191.960	0.107	566.143	4193.877	0.880
566.143	4191.960	0.134	566.227	4193.877	0.881
566.227	4191.960	0.166	566.310	4193.877	0.884
566.310	4191.960	0.213	566.393	4193.877	0.882
566.393	4191.960	0.223	566.477	4193.877	0.845
566.477	4191.960	0.263	566.560	4193.877	0.700
566.560	4191.960	0.335	566.643	4193.877	0.573
566.643	4191.960	0.472	566.727	4193.877	0.468
566.727	4191.960	0.598	566.810	4193.877	0.389
566.810	4191.960	0.685	566.893	4193.877	0.462
566.893	4191.960	0.713	566.977	4193.877	0.558
566.977	4191.960	0.705	567.060	4193.877	0.677
567.060	4191.960	0.676	567.143	4193.877	0.875
567.143	4191.960	0.671	567.227	4193.877	0.920
567.227	4191.960	0.665	567.310	4193.877	0.922
567.310	4191.960	0.662	567.393	4193.877	0.916
567.393	4191.960	0.701	567.477	4193.877	0.904
567.477	4191.960	0.777	567.560	4193.877	0.887
567.560	4191.960	0.972	567.643	4193.877	0.865
567.643	4191.960	0.860	567.727	4193.877	0.839
567.727	4191.960	0.763	567.810	4193.877	0.809

567.810	4191.960	0.680	567.893	4193.877	0.776
567.893	4191.960	1.314	567.977	4193.877	0.739
567.977	4191.960	2.889	568.060	4193.877	0.700
568.060	4191.960	2.700	568.143	4193.877	0.657
568.143	4191.960	2.463	568.227	4193.877	0.612
568.227	4191.960	2.231	568.310	4193.877	0.565
568.310	4191.960	2.000	564.560	4193.960	0.023
564.560	4192.043	0.012	564.643	4193.960	0.030
564.643	4192.043	0.014	564.727	4193.960	0.038
564.727	4192.043	0.015	564.810	4193.960	0.048
564.810	4192.043	0.016	564.893	4193.960	0.057
564.893	4192.043	0.018	564.977	4193.960	0.066
564.977	4192.043	0.020	565.060	4193.960	0.076
565.060	4192.043	0.022	565.143	4193.960	0.096
565.143	4192.043	0.024	565.227	4193.960	0.121
565.227	4192.043	0.026	565.310	4193.960	0.155
565.310	4192.043	0.029	565.393	4193.960	0.195
565.393	4192.043	0.032	565.477	4193.960	0.252
565.477	4192.043	0.037	565.560	4193.960	0.340
565.560	4192.043	0.042	565.643	4193.960	0.483
565.643	4192.043	0.049	565.727	4193.960	0.699
565.727	4192.043	0.058	565.810	4193.960	0.797
565.810	4192.043	0.069	565.893	4193.960	0.795
565.893	4192.043	0.086	565.977	4193.960	0.788
565.977	4192.043	0.110	566.060	4193.960	0.777
566.060	4192.043	0.141	566.143	4193.960	0.775
566.143	4192.043	0.183	566.227	4193.960	0.775
566.227	4192.043	0.235	566.310	4193.960	0.778
566.310	4192.043	0.308	566.393	4193.960	0.687
566.393	4192.043	0.331	566.477	4193.960	0.547
566.477	4192.043	0.428	566.560	4193.960	0.433
566.560	4192.043	0.620	566.643	4193.960	0.383
566.643	4192.043	0.870	566.727	4193.960	0.341
566.727	4192.043	1.031	566.810	4193.960	0.305
566.810	4192.043	1.079	566.893	4193.960	0.389
566.893	4192.043	1.039	566.977	4193.960	0.514
566.977	4192.043	0.961	567.060	4193.960	0.683
567.060	4192.043	0.871	567.143	4193.960	0.816
567.143	4192.043	0.834	567.227	4193.960	0.828
567.227	4192.043	0.806	567.310	4193.960	0.831
567.310	4192.043	0.785	567.393	4193.960	0.829
567.393	4192.043	0.798	567.477	4193.960	0.821
567.477	4192.043	0.840	567.560	4193.960	0.808
567.560	4192.043	0.947	567.643	4193.960	0.790
567.643	4192.043	1.077	567.727	4193.960	0.768
567.727	4192.043	1.306	567.810	4193.960	0.743
567.810	4192.043	1.734	567.893	4193.960	0.714
567.893	4192.043	2.914	567.977	4193.960	0.682
567.977	4192.043	2.957	568.060	4193.960	0.646
568.060	4192.043	2.714	568.143	4193.960	0.607
568.143	4192.043	2.472	568.227	4193.960	0.566
568.227	4192.043	2.236	568.310	4193.960	0.523
568.310	4192.043	2.002	564.560	4194.043	0.025
564.560	4192.127	0.012	564.643	4194.043	0.031
564.643	4192.127	0.014	564.727	4194.043	0.039
564.727	4192.127	0.015	564.810	4194.043	0.049
564.810	4192.127	0.017	564.893	4194.043	0.059
564.893	4192.127	0.018	564.977	4194.043	0.070

564.977	4192.127	0.021	565.060	4194.043	0.084
565.060	4192.127	0.023	565.143	4194.043	0.104
565.143	4192.127	0.025	565.227	4194.043	0.130
565.227	4192.127	0.027	565.310	4194.043	0.164
565.310	4192.127	0.029	565.393	4194.043	0.214
565.393	4192.127	0.033	565.477	4194.043	0.292
565.477	4192.127	0.038	565.560	4194.043	0.420
565.560	4192.127	0.043	565.643	4194.043	0.505
565.643	4192.127	0.052	565.727	4194.043	0.607
565.727	4192.127	0.063	565.810	4194.043	0.691
565.810	4192.127	0.077	565.893	4194.043	0.657
565.893	4192.127	0.100	565.977	4194.043	0.611
565.977	4192.127	0.136	566.060	4194.043	0.562
566.060	4192.127	0.188	566.143	4194.043	0.521
566.143	4192.127	0.261	566.227	4194.043	0.487
566.227	4192.127	0.364	566.310	4194.043	0.456
566.310	4192.127	0.499	566.393	4194.043	0.431
566.393	4192.127	0.534	566.477	4194.043	0.406
566.477	4192.127	0.776	566.560	4194.043	0.382
566.560	4192.127	1.404	566.643	4194.043	0.335
566.643	4192.127	1.847	566.727	4194.043	0.297
566.727	4192.127	1.909	566.810	4194.043	0.264
566.810	4192.127	1.734	566.893	4194.043	0.366
566.893	4192.127	1.505	566.977	4194.043	0.534
566.977	4192.127	1.286	567.060	4194.043	0.715
567.060	4192.127	1.099	567.143	4194.043	0.738
567.143	4192.127	1.015	567.227	4194.043	0.743
567.227	4192.127	0.956	567.310	4194.043	0.747
567.310	4192.127	0.915	567.393	4194.043	0.747
567.393	4192.127	0.895	567.477	4194.043	0.742
567.477	4192.127	0.896	567.560	4194.043	0.733
567.560	4192.127	0.929	567.643	4194.043	0.719
567.643	4192.127	1.371	567.727	4194.043	0.700
567.727	4192.127	2.959	567.810	4194.043	0.679
567.810	4192.127	3.530	567.893	4194.043	0.654
567.893	4192.127	3.229	567.977	4194.043	0.625
567.977	4192.127	2.953	568.060	4194.043	0.594
568.060	4192.127	2.696	568.143	4194.043	0.559
568.143	4192.127	2.454	568.227	4194.043	0.522
568.227	4192.127	2.217	568.310	4194.043	0.482
568.310	4192.127	1.984	568.460	4194.127	0.026
564.560	4192.210	0.012	564.643	4194.127	0.032
564.643	4192.210	0.013	564.727	4194.127	0.040
564.727	4192.210	0.015	564.810	4194.127	0.049
564.810	4192.210	0.016	564.893	4194.127	0.060
564.893	4192.210	0.018	564.977	4194.127	0.074
564.977	4192.210	0.021	565.060	4194.127	0.092
565.060	4192.210	0.023	565.143	4194.127	0.113
565.143	4192.210	0.025	565.227	4194.127	0.139
565.227	4192.210	0.027	565.310	4194.127	0.174
565.310	4192.210	0.029	565.393	4194.127	0.240
565.393	4192.210	0.033	565.477	4194.127	0.349
565.477	4192.210	0.038	565.560	4194.127	0.529
565.560	4192.210	0.044	565.643	4194.127	0.527
565.643	4192.210	0.054	565.727	4194.127	0.523
565.727	4192.210	0.067	565.810	4194.127	0.517
565.810	4192.210	0.084	565.893	4194.127	0.460
565.893	4192.210	0.115	565.977	4194.127	0.412

565.977	4192.210	0.166	566.060	4194.127	0.370
566.060	4192.210	0.248	566.143	4194.127	0.322
566.143	4192.210	0.378	566.227	4194.127	0.285
566.227	4192.210	0.605	566.310	4194.127	0.253
566.310	4192.210	1.005	566.393	4194.127	0.278
566.393	4192.210	1.092	566.477	4194.127	0.305
566.477	4192.210	1.654	566.560	4194.127	0.336
566.560	4192.210	4.455	566.643	4194.127	0.293
566.643	4192.210	4.617	566.727	4194.127	0.258
566.727	4192.210	3.634	566.810	4194.127	0.228
566.810	4192.210	2.703	566.893	4194.127	0.344
566.893	4192.210	2.086	566.977	4194.127	0.554
566.977	4192.210	1.645	567.060	4194.127	0.656
567.060	4192.210	1.330	567.143	4194.127	0.661
567.143	4192.210	1.193	567.227	4194.127	0.665
567.227	4192.210	1.104	567.310	4194.127	0.668
567.310	4192.210	1.044	567.393	4194.127	0.670
567.393	4192.210	0.982	567.477	4194.127	0.667
567.477	4192.210	0.936	567.560	4194.127	0.661
567.560	4192.210	0.906	567.643	4194.127	0.650
567.643	4192.210	1.799	567.727	4194.127	0.635
567.727	4192.210	3.808	567.810	4194.127	0.617
567.810	4192.210	3.481	567.893	4194.127	0.595
567.893	4192.210	3.175	567.977	4194.127	0.570
567.977	4192.210	2.899	568.060	4194.127	0.543
568.060	4192.210	2.641	568.143	4194.127	0.512
568.143	4192.210	2.406	568.227	4194.127	0.478
568.227	4192.210	2.174	568.310	4194.127	0.443
568.310	4192.210	1.946	564.560	4194.210	0.027
564.560	4192.293	0.012	564.643	4194.210	0.033
564.643	4192.293	0.013	564.727	4194.210	0.040
564.727	4192.293	0.015	564.810	4194.210	0.048
564.810	4192.293	0.016	564.893	4194.210	0.061
564.893	4192.293	0.018	564.977	4194.210	0.078
564.977	4192.293	0.020	565.060	4194.210	0.101
565.060	4192.293	0.022	565.143	4194.210	0.123
565.143	4192.293	0.024	565.227	4194.210	0.151
565.227	4192.293	0.027	565.310	4194.210	0.187
565.310	4192.293	0.029	565.393	4194.210	0.274
565.393	4192.293	0.033	565.477	4194.210	0.424
565.477	4192.293	0.038	565.560	4194.210	0.567
565.560	4192.293	0.045	565.643	4194.210	0.535
565.643	4192.293	0.054	565.727	4194.210	0.448
565.727	4192.293	0.067	565.810	4194.210	0.368
565.810	4192.293	0.085	565.893	4194.210	0.320
565.893	4192.293	0.117	565.977	4194.210	0.280
565.977	4192.293	0.167	566.060	4194.210	0.249
566.060	4192.293	0.250	566.143	4194.210	0.209
566.143	4192.293	0.398	566.227	4194.210	0.180
566.227	4192.293	0.690	566.310	4194.210	0.157
566.310	4192.293	1.364	566.393	4194.210	0.188
566.393	4192.293	2.036	566.477	4194.210	0.231
566.477	4192.293	2.488	566.560	4194.210	0.294
566.560	4192.293	17.917	566.643	4194.210	0.255
566.643	4192.293	10.141	566.727	4194.210	0.222
566.727	4192.293	6.025	566.810	4194.210	0.196
566.810	4192.293	3.945	566.893	4194.210	0.322
566.893	4192.293	2.750	566.977	4194.210	0.552

566.977	4192.293	2.029	567.060	4194.210	0.586
567.060	4192.293	1.561	567.143	4194.210	0.589
567.143	4192.293	1.406	567.227	4194.210	0.592
567.227	4192.293	1.322	567.310	4194.210	0.596
567.310	4192.293	1.293	567.393	4194.210	0.598
567.393	4192.293	1.305	567.477	4194.210	0.597
567.477	4192.293	1.394	567.560	4194.210	0.592
567.560	4192.293	1.562	567.643	4194.210	0.584
567.643	4192.293	3.594	567.727	4194.210	0.572
567.727	4192.293	3.692	567.810	4194.210	0.556
567.810	4192.293	3.362	567.893	4194.210	0.538
567.893	4192.293	3.069	567.977	4194.210	0.516
567.977	4192.293	2.804	568.060	4194.210	0.492
568.060	4192.293	2.559	568.143	4194.210	0.465
568.143	4192.293	2.329	568.227	4194.210	0.435
568.227	4192.293	2.106	568.310	4194.210	0.404
568.310	4192.293	1.886			
564.560	4192.377	0.012			